AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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February.

"Be then the swain advised to shield his flocks
From Winter's deadening frosts, and whelming snows;
Let the loud tempest rattle on the roof,
While they, secure within, warm cribs enjoy,
And swell their fleeces, equal to the worth
Of clothed Apulian, by soft warmth improved,
Or let them inward heat or vigor find
By food of cole or turnip, hardy plants.
Besides, the lock of one continued growth
Imbibes a clearer and more equal dye."

DYER'S "FLEECE."

One of the most delightful duties of the husbandman at this season, is the care of his domestic animals. All Summer they have gone forth at will, cropping their food in green pastures, in a measure independent of man. The sheep, after yielding their annual fleeces, and receiving their marks, are driven to the most distant pastures, often upon the mountain and hill sides, where the owner rarely sees them. The young cattle and swine, in many parts of the land, run at large, and it is only when the Winter snows begin to robe the earth, that they seek the protection of man. Now they need the stores of food and the shelter, which the farmer has provided for them. As they minister to his wants, yielding milk, butter, cheese, and flesh for his table, down for his bed, and warm clothing for his person, it is meet that he should study their wants, and minister to their comfort. This is the design of the kind Providence that has peopled the earth with living creatures, and made them mutually helpful and dependent. There is substantial truth in the lines of Pope:

"The bounding steed you pompously bestride,
Shares with his lord the pleasure and the pride.
Is thine alone the seed that strews the plain?
The birds of heaven shall vindicate their grain.
Thine the full harvest of the golden year?
Part pays, and justly, the deserving steer.
The hog that plows not, nor obeys thy call,
Lives on the labors of this lord of all.
Know, nature's children all divide her care.
The fur that warms a monarch, warmed a bear
While man exclaims, "See all things for my use!"
"See man for mine," replies the pampered goose;
And just as short of reason he must fall,
Who thinks all made for one, not one for all.

The gladdest hour of the day in the farmyard is that of the early morning, when the farmer comes forth to feed his flocks. His work is well nigh done, in these short days, before the sun makes his appearance above the eastern hills. The fresh fallen snow, it may be, lies upon the ground. Old chanticleer and his harem of beauties, after long crowing and cackling to get their courage up, come dropping down into the snow. They do not relish the earth's new carpet. It bodes no good to them; for grub, and grass, on which they have feasted in the long Summer days, are buried from sight. The geese and ducks come forth from the sheds, and run their bills in the snow, with obstreperous quacking, in expression of their astonishment at the new element, which is neither land nor water. The old gander looks down with dignified contempt upon the article. He can neither walk nor swim in it. He can not drink it, and as for eating, it is very much like cold victuals. The old turkey gobbles out his dissatisfaction, and though with his long legs he can walk better than his neighbors, he beats an early retreat under the shed to warm his toes. The snow is voted a bore by the whole feathered tribe, and the loud cry of the company, as they greet the mistress of the mansion, is, "hot potatoes and corn." They will doubtless get it, with a little of the butcher's offal to promote the laying of eggs.

There is no mistaking the bleating of the sheep, as they hear the opening of the yard gate in the morning. They are accustomed to these morning visits of the shepherd, and salute him as they rise from their strawy couches, and crowd around him. He receives a like salutation, as he opens the doors of the stalls, and looks in upon the oxen and cows. "The ox knoweth his owner," and there is a well defined communion between man and these creatures of his care. They can be made to understand his wishes, and, in some measure, to appreciate his kindness. The gulls of Holyhead, on the coast of Wales, crowd around the keeper of the lighthouse, as tame as doves, though they are elsewhere the wildest of sea birds. They are there fed and protected, and never hear the firing of guns. Every visitor, who passes through the parks of Philadelphia, notices the gray squirrels, that come down from the trees, and take nuts and fruits from the hands of children, as familiarly as household pets. These facts are indications of the capabilities of animals for domestication. Their training doubtless can be carried to much greater perfection, than is commonly supposed to be possible. The power of kindness over them is very great, and it is essential to their perfect subjugation, and to their highest usefulness to man. Even the horse that can be ridden and driven, becomes almost another creature under the discipline of Rarey. He adapts himself so perfectly to the motions of his rider, obeying the slightest indication of his will, communicated by rein or spur, by look or tones of the voice, that he seems almost gifted with human intelligence. We sometimes meet with a teamster who has carried the training of oxen to a like perfection. He may carry a whip, but it is never used to lacerate the skin. There is no bluster or loud hallooing, and yet he will get from his yoke of cattle the full exertion of their strength. They seem to understand the English of every movement of his whip, though it does not touch them. There are milkers that would as soon think of striking their mothers with a stool, as the cows whose udders they draw. They go about the yard with a quiet step, and as they take their seat upon the milking stool, the cows do not even stop chewing the cud. The right leg is put back for the convenience of the milker at the slightest touch. They express in their dumb way their satisfaction at his presence. There are shepherds who know every sheep in the flock by some peculiarity of expression, though they all look alike to a stranger. "The sheep know his voice and follow him."

Now all this is admirable, and shows what may be done in the way of training. How much better is this, than the scenes so often witnessed in the farm yard, and in the field, horses beaten till their eyes are knocked out, or otherwise maimed, oxen pounded with sled stakes over the head until blood runs from the nostrils, and cows mauled with a stool, until they are taught to kick at the slightest movement of the milker. This cruelty operates very much against the thrift of the animals. Whether the aim be to make flesh or milk, the more quiet the animal can be kept the better. They are affected very much as men are, by what may be termed moral causes. Their digestion and rumination are disturbed by any undue excitement. This affects the assimilation of the food, and the formation of flesh or of milk.

The influence of the abuse of animals whether by neglect or by punishment, is even worse for man than it is, for the brute. It cultivates the

irascible and malignant passions, and makes him fiendish. The care of these creatures, on the contrary, ought to be made a source of pleasure and of moral improvement. We ought for our own sakes, if from no higher consideration, to practice self restraint and kindness, in our intercourse with them. To kick, even a sheep, in anger, may inflict a fouler blow upon a man's moral nature. To repress wrath when tempted, and to cast out the devil of ugliness, is to gain a moral triumph, though the scene of the victory be among brutes. Paul fighting with beasts at Ephesus was no more a saint and hero than the man who conquers himself, while he subdues the fierce tempers and blind instincts of the creatures over which he is made lord. Such a victory is not only money in the purse, by the quiet and thrift it secures among the flocks and herds, but it is the fine gold in character, which is the end of all our earthly labors.

Calendar of Operations for Feb., 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the South, and later for the North.

☞ This department is much fuller in the working season, embracing all the operations of the farm, garden, etc.

EXPLANATIONS.—*f* indicates the *first*; *m*, the *middle*; and *l*, the *last* of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the *first* to the *middle* of the month.]

Farm.

Winter yet holds sway at the North, though, thus far, its reign has been less severe than is often experienced. A short hay crop has, in previous years, often been followed by the compensation of a mild Winter, yet many always suffer loss for want of sufficient fodder to winter stock properly. Much may be saved by providing warm shelter, as was fully argued last month; and those who have, in addition, a good stock of roots to draw upon now, find the benefit of the provision. Let those who are inconvenienced by short supplies at this time, make a note of it, and guard against like trouble in future.

Barns and Stables—Keep out the wind and storms, but provide sufficient ventilation to carry off all effluvia. The odors arising from excretions, if confined, make the atmosphere unwholesome for animals, and impart a taint to their feed.

Cattle—Observe directions given last month. Keep breeding cows in wide roomy stalls, separate from other animals, as their time of calving approaches. Read articles on page 42, this No.

Cellars—Sort over potatoes, roots, apples, etc., and remove all decaying matter. If more apples were stored than are needed for family use, market them, or feed to stock. Examine pork and beef barrels; some may need new brine. Experiment with rats; see article "Stop the Rats" on page 44.

Clover Seed—Provide a supply of this for sowing upon the winter grain fields, as Spring approaches. A lot of clover for pasture is good; and the *best* and *cheapest* manure is a tall growth of clover plowed in.

Drains in the yards, by the roadsides, and in the fields, should be kept free from obstruction, as far as possible. Improve every thaw to attend to this. It is the expansion of water in the soil, and not of the soil itself, that rends the roots of plants, and winter-kills them.

Fencing—Add to the stock of materials if needed, and commence repairs as early as may be.

Fuel—Have a year's supply ready for the stove. Spring will bring work enough without this additional labor. Besides, dry fuel is best, and the cheapest. It always takes the heat of a portion of green wood to dry out the moisture from the rest.

Grain—Thresh, *ff*, any remaining, before more loss is suffered from rats and mice. Secure abundant supplies of good seed for Spring use.

Grain Fields—Keep all stock from feeding or trampling them.

Hired Men—Engage good trustworthy hands for the ensuing season. One or two dollars per month is a small matter compared with the loss and vexation caused by ignorant or careless help.

Hogs—Warm, cooked food is economical. Keep them in good appetite by occasional changes of diet. Give potatoes, meal, a little chopped hay steamed, refuse vegetables, etc., with grain and meal. Keep the pens clean and well littered with leaves or straw.

Horses—Follow directions given last month. Read article "Two Hours with Mr. Rarey" on a subsequent page.

Ice Houses—Fill, *ff*, if not completed. Secure proper drainage and ventilation.

Lime and Plaster—Get at least a few barrels of these home during Winter, to sow on your wheat in Spring, and upon the pasture fields and meadows. A strip sown through each field, will most likely show good results, or at least indicate whether a larger expenditure for these fertilizers will or will not pay. See "Liming Land" on another page.

Manures—Make and save all possible. Cart out and deposit in heaps in the field in suitable weather. Fine compost may be advantageously applied to meadows now, thus securing an early and rapid growth in Spring; the surface will also be less cut by drawing it while the ground is frozen. Read articles on page 46, this No.

Maple Sugar.—Prepare necessary apparatus. Commence making as soon as the sap will flow. Shallow evaporating pans are best.

Poultry—Observe directions given last month. Guard against vermin by occasional fumigation of nesting places, and whitewashing the roosts. Remove the droppings to the manure heap, or mix with plaster, and reserve them for the garden or other choice plots.

Seed—Make ample provision for seed corn, spring wheat, oats, and whatever else will be needed. It is better done now, than in the hurry of Spring.

Sheep—Provide ample shelter separate from other stock. Keep them in good condition with roots or grain added to hay. Breeding ewes will bear stronger lambs and be less enfeebled thereby, if properly treated through the Winter.

Tools—Put all in complete repair. Procure improved implements for the coming season. On many farms one or two extra hands may be saved by introducing labor saving contrivances.

Orchard and Nursery.

Little can be done in this department until the ground is in order for transplanting. The earlier that operation can be commenced, the more favorable for the trees. Should a warm spell occur quite early, it will be well to keep choice fruit trees from too rapid vegetation, by shading the branches from the sun, and, if practicable, retaining snow about their roots. Thousands of trees have been destroyed by too early swelling of the buds, which were killed by succeeding frosts. This is, of course, not applicable on a large scale, but favorite trees and shrubs may be easily guarded.

If in early transplanting, trees are frozen, bury them root and branch in earth; they will sustain less injury if thawed gradually. Have every thing in readiness for Spring work in the nursery.

Cions will soon be needed. Procure choice sorts any time this month when not frozen. Label each sort distinctly and keep until wanted for grafting, in sand in the cellar.

Insects are more readily reached now than later in the season. Scrape the trunks and main limbs of trees infested with bark-lice, and scrub with moderately strong lye.

Manure—Draw out and spread under the trees as far as the roots extend. It is of less benefit when all of it is applied directly around the trunks.

Pruning—Remove only dead wood and small suckers at this season: leave the main work until August or September.

Select from catalogues choice assortments of trees for transplanting as soon as the ground will permit. See article "Which are the Best Apples?" on page 49, this No.

Snow—Remove from the branches of low spreading trees, before it splits them down.

Stakes, labels, tallies, packing bags, mats, etc.—Have a good stock in readiness for Spring use during the busy season of nursery planting or sales.

Kitchen and Fruit Garden.

Spring work in the garden may be forwarded during this month by preparation of implements, seeds, etc. At the South, the seeds of early vegetables may be sown, and in this latitude hot-beds can be started the last of the month, for the earliest plantings of tomatoes, cabbages, lettuce, etc., for the first marketing. For family use it is better to defer this until March.

Cold Frames—Admit air during mild weather. Guard against sudden freezing, particularly when they are unprotected by a covering of snow. Spread over them mats or straw.

Cuttings of Currants, Gooseberries, etc., may be made whenever the wood is not frozen. Keep them covered with sand in the cellar.

Fences—Repair old, and make new where needed. Provide convenient gates and secure them with proper fastenings. Keep all well coated with paint; now is a good time to apply it.

Grape Vines—Prune, *ff*, if not done at the proper time in the Fall.

Manures—The best results are obtained when these are finely divided and intimately mixed with the soil. Provide abundance of stable manure composted with muck, guano, poultry droppings, night soil, etc. For fruit trees, leaves, or sawdust saturated with urine is an excellent application.

Prune Currants and Gooseberries if neglected until now; save the cuttings for propagation.

Rhubarb—For earliest use set a few roots in boxes and place them in the green-house, or a room where fire is kept. That in open ground can be hastened by covering with horse manure.

Seeds—Examine the list for free distribution from this office, printed on a subsequent page, and select desirable parcels. Procure and study catalogues of reliable seedsmen whose advertisements appear in the appropriate department. Test samples before purchasing largely. They are easily sprouted if good, by laying them on cotton in a dish of water kept in a warm place.

Tools—Provide a full supply of improved kinds, and repair old.

Trees and Vines—Cleanse from moss, insects, rough scaly bark, and wash with weak lye.

Trellises and Arbors—Provide for vines and trailing plants. Repair and paint all needing it. Neatness adds to the marketable value of any place.

Flower Garden and Lawn.

A snowy mantle still covers the northern gardens, and about the only care the grounds now require is to see that the evergreens and shrubs are not injured by an accumulation of snow upon their branches. If pruning has been neglected until this late season, it should be performed at once, during mild weather. Cuttings of roses, althæas, honeysuckles, and other shrubs, or climbers, for propagating in the Spring, may be taken while pruning.

In the Middle States, and further South, the swelling buds give evidence of approaching vegetation; and preparing the ground, spading, trenching, manuring, and in some cases, planting, are the order of the day. The ornamental trees and shrubbery, excepting evergreens, should be set out as soon as the ground will permit: they thrive better, especially the early flowering sorts, and it is also very desirable to have this work done before the hurry of the season comes on.

Hot-beds may be made for seeds of early

flowers, to hasten their blooming period, and to start the various cuttings. Many plants will strike in a moderately heated hot-bed which could not be made to grow in the open ground.

Green-Houses.

Little need be added to the directions of last month. Care will be required to maintain a temperature above the freezing point, but not higher than 50° unless it is desired to induce growth of the plants.

Keep a careful eye upon the insects, and apply the proper antidotes upon their first appearance.

Cuttings of many of the woody plants should now be made and potted. They will strike better if taken to the hot-house.

Prune into shape any plants needing it, and remove all decaying branches, dead leaves, weeds, and moss, keeping every thing neat and clean, with an atmosphere free from impurities.

Repotting will claim a full share of the manager's time this month, if the collection is large. Many of the plants may now be carried to the forcing apartments to hasten the blooming period.

Water—Increase the amount as the plants push into growth, but avoid an excess. Keep the drainage good.

Hot-House and Conservatory.

Many of the directions of last month are still seasonable. The frequency of change in the weather makes great watchfulness necessary to regulate the fires. From 70° to 80° of heat should be maintained. If snow falls, the roof should be cleared to admit the light which the rapidly growing plants now require. If from want of proper ventilation the condensed moisture gathers and drops upon the plants below, tin conductors should be suspended to collect and carry it off. Air must be given the plants frequently, but much care will be needed to prevent chilling drafts from striking directly upon the plants. Only the upper ventilators should be opened, and but slightly during severe weather. During mild days a general airing may be given.

Azaleas, now in bloom, should be watered freely. Moderate syringings will do them good, but the flowers will sooner decay if they are wet often.

Bedding Plants—Insert, cuttings and make layers for a good stock of Petunias, Pelargoniums, Verbenas, Dianthus, Candytuft, Pansies, Dicentras, Daisies, Salvias, etc., for early planting in the open border. The beauty of the flower garden is greatly increased by a good stock of bedding plants taken to the beds in full bloom at the opening of spring.

Bulbs—The early forcings should now be in bloom, and others in a good degree of forwardness. The full, regular bloom, and sweet odor of the hyacinths now show their worth as house plants. Bring a fresh collection from the cooler green-house, every two weeks, to keep up a succession of bloom.

Camellias—Syringe once or twice a week, but keep the water from falling on the flowers as it hastens their decay. Examine the foliage for traces of the red spider which injures many collections. If plants are affected, wash each leaf with a sponge and soft water, and syringe three or four times a week.

Cuttings—Make and insert a good supply for a Spring stock. If delayed much longer, they will not become sufficiently rooted and of suitable size to plant out early.

Grapes—Continue the directions of last month according to the degree of forcing they have had.

Insects are now troublesome, unless they have been kept in check by following the directions already given. Fumigating with tobacco will destroy any which have established themselves.

Repotting—Many rapid growing plants require pots of a larger size. Keep potting soil at all times in readiness.

Seeds of many of the out-door annuals may now be sown in pots. They will form good sized plants for decorating the border early in the season.

Syringing often, will maintain a humid atmosphere, which is requisite at this season. Dampening the walls and floors has a similar effect.

Water—Give judiciously according to the wants of growing plants. Excess is quite as injurious as too little. Twice a week will usually be sufficient. Evaporating pans filled with water, and placed in different parts of the houses or rooms will be beneficial. The water used on plants should be taken from tanks or cisterns in the houses, so as to be of the same temperature as the atmosphere.

Apiary in February.

BY M. QUINBY.

There will probably be a few days, in this month, warm enough for the bees to fly out. They should be prevented from issuing when there is newly fallen snow on the ground. But if the snow is somewhat hard, having settled or thawed a little, there is no harm in letting them fly. A few may fall and perish, but these will mostly be feeble ones, that would very likely be lost even if the ground were entirely bare. Keep the air passages open. Sweep out dead bees and filth during the turns of moderate weather.

If any change is to be made in the bee yard, let it be attended to this month, that each hive may occupy its summer stand before the bees fly out in Spring. As each bee marks its locality when first leaving, the hive can not be moved afterward without loss of bees, unless taken a mile or more. Arrange the stands four or six feet apart, if there be room. Bees enough will be saved by it to pay, even if it be done at some inconvenience.

If you intend purchasing bees this season, there will not be a better time for it than now, except where they are housed, in which case it is better not to disturb them until a suitable day to put them out. Stocks that have been out through the Winter so far, and are now in *good condition*, may be considered safe. For moving them, use a wagon with springs, unless you can take them on sleighs. If any that are out doors, must be fed, it will not do to risk their finding food on the top of the hive; the weather may not be warm enough at all times for them to go there for it when they need it. It is quite necessary to take them to a *dark warm* room. Be sure that they find the honey; it may be necessary sometimes to invert the hive, and pour a small quantity of liquid honey directly among the bees to save them. When they are to be fed many times, a good way is, to invert the hive, and cut out a little place in the combs for a saucer, into which the honey may be given as they need it. Honey in the combs may be given by simply introducing it instead of the saucer. The bees will be very likely to wax the saucer or comb fast when laid on their combs in this way; but no harm is done by breaking it loose when the feeding is finished.

Mulching Wheat with Buckwheat.

Dr. C. Harlan of Wilmington, Del., advocates sowing buckwheat with wheat in the fall. He says the buckwheat will often grow two feet high before the frost kills it. It will prevent the winds from sweeping the earth away from the tender roots, and will assist in preventing the frost from throwing out the crop; and when spring returns, it will rot down and assist to nourish the young plant when it most needs it. Something in this idea. Has it been tried by other readers of the *American Agriculturist*.

TRYING SEED CORN.—A Correspondent of the Nebraska Farmer, after describing his method of selecting seed corn in the field in Autumn, and keeping it in a moderately warm dry place in winter, says that in the spring he tests it as follows: He rolls or wraps each ear in paper; twists the little end, and shears off the paper at the big end, down even with the ear. He then draws out the ear carefully, and shells it. If the shelled corn of any ear does not fill the paper, it is *rejected*. In this way he sorts out the heavy kerneled and small cob grades, and is improving his crop.

SLEIGHS ON BRIDGES.—The difficulty of crossing bridges, especially covered ones, with sleighs, is appreciated by all. No matter how good the sleighing, if a long bridge is to be crossed, not more than half a load can be taken. We remember to have been obliged to take off and put on a load of wheat, in bags, and make three trips across a bridge. This difficulty is admirably obviated at a bridge crossing the Kennebec river in Augusta, Me. In one of the carriage passages a railway is laid down, and a large low platform car so arranged that heavy loaded sleighs can be driven upon it at either end, and pushed over with ease. This plan is worthy of imitation. Any one having occasion to cross a long bridge with a sleigh, would gladly pay a moderate toll for such a convenience.

DECAY OF BUILDINGS.—A writer in the London Chemical News, says that the new houses of Parliament, which are built of Magnesian limestone, are already crumbling into decay. He also states that the rain which falls in cities is more destructive to buildings than that falling in the country, owing to the solvent properties of the impurities which are washed out of city air by rain.

Stick a Pin Here!

WHAT KIND OF CULTURE PAYS BEST?

To illustrate the truth we would impress upon every reader of the *American Agriculturist*, let us take two fields, side by side—one of 20 acres, and one of 10 acres, both sown to wheat last year; market price of the land is $50 per acre.

FIRST FIELD (20 acres).	Dr.
To Plowing 20 acres, at $1.50	$30
" 20 bushels of seed, at $1.00	20
" Sowing and harrowing 20 acres, at 50 c	10
" Harvesting 20 acres, at $1.25	25
" Threshing and marketing 240 bushels, at 10c	24
" Interest on cost of land	42
" Taxes on assessed value	4
" Repairs and interest on first cost of fencing	4
" Gathering stones, and sundry expenses	4
	$173
Credit by 240 bushels of wheat, at $1 $240	
Net profit	$67

SECOND FIELD (10 acres).	Dr.
To plowing 10 acres, at $1.50	$15
" 15 bushels seed, at $1	15
" Sowing and harrowing 10 acres, at 50c	5
" Harvesting 10 acres, at $1.30	13
" Threshing and marketing 170 bushels, at 10c	17
" Interest on cost of land	21
" Taxes on 10 acres, assessed at $20	2
" Repairs and interest on cost of fencing	3
" Gathering stones and incidentals	2
	$93
Credit by 170 bushels of wheat, at $1 $170	
Net profit on 10 acres	$77

The above figures are worth studying. By raising the yield from 12 to 17 bushels per acre, we get $10 more profit from 10 acres than from 20. The several items, cost of land, expenses of collecting etc., are put at a fair, moderate rate—too low if anything—and they are the same in each case. If we increase these expenses, it will increase the net profit in favor of the smaller field. The same estimates will answer for corn, oats, potatoes, etc, (see Experiments with potatoes, page 43.) *Now for the lesson taught.* Does any one doubt that it would be easy to increase the yield 5 bushels per acre by taking one half of the first field and cultivating it thoroughly, plowing it deep, subsoiling and draining when necessary, and manuring—in short, treating it as you would if trying to obtain a premium from an Agricultural Society? Would it cost over $20 per acre to put it in a condition to yield this increased crop *every year?* Certainly not. Then why not sell off ten acres, and expend two-thirds

of the proceeds upon the other ten acres, and save the one-third for other purposes.

Farmers cultivate too much land. If they will take into account the extra cost of tilling a large surface for the same crop, they can but discover that a little land well tilled will *pay* better and involve less care than the same expense on a large surface. You may laugh at our notions of "high farming," but we have on our side the *facts*, the figures, and—the "dimes." Stick a pin here!

Draining—Why—Where—How.

WHY.

Please read the preceding article before beginning this .....It is no idle, visionary statement, to say that four out of five, of all the cultivated fields in this country, can be underdrained *with profit*, and this includes a large proportion of the fields usually esteemed *dry*, or at least not wet land; and we hazard the prediction that one half of the present cultivated land of the northern States east of the Mississippi river will be drained within the next 25 or 30 years. Draining is less practicable in parts of the Southern States, and less needed in a warm than in a cold climate. Further, those farmers who first go into draining will first reap the benefit.

It needs no argument to prove, for every one's observation teaches, that a warm, genial soil, free from excess of moisture beneath, is far more favorable to the growth of crops, than one which is cold and subject to excess of moisture a part of the year. Take any moderately dry, loamy land for example, and from November to April, at least, it is filled with water, that is it has more moisture than is required by the roots of plants. This water prevents the passage of air among the particles. In freezing, it expands much more than the soil, for water expands fully one-eighth of its bulk in freezing, while the solid soil expands not at all if dry, but rather contracts a little. This expansion of a wet soil, or of the water in it, tears and breaks the roots of all plants. The constant rising to the surface and evaporation of the water in Spring, not only carries off much heat, but it prevents the penetration of the sun's rays, and of warm air.

Now put under this soil a series of drains at suitable distances to carry off all surplus water, winter and summer, and what will be the result? The air will penetrate among the pores, oxydizing or destroying the poisonous compounds abounding in that portion of all soils which do not come in free contact with the air. These poisons being destroyed, the plants will grow more vigorously. The penetrating air will also aid in fitting the elements in the soil to nourish the growing plants. The moist but not wet soil will be only moderately expanded by frost, and will not break and tear the roots of growing crops. Wheat, for example, *never* winter-kills on thoroughly drained ground. The sinking away of the excess of water into the drains, of course, prevents its evaporation from the surface, and the soil is warmer. This freedom from evaporation in Spring, and the earlier warmth received from the sun and air start the plants ahead a week or two sooner, and this alone often makes half difference in the yield. When land is under-drained, it can be worked, not only much earlier in spring, but also sooner after a rain. The gain of time in this respect, is often of great consequence.

Drained land is not liable to be affected by long cold rains, which are so often destructive to corn and other crops, and which always retard their growth. On the drained land, the excess of water soon sinks away, and the crops start afresh as soon as the rain ceases.

But, further, a dry field, if well under-drained, is less affected by the drouth than one not so drained. This seems paradoxical, but it is nevertheless true. The air always contains a good deal of moisture, which it invariably yields up to any thing colder than itself with which it comes in contact. A tumbler of ice water will condense moisture upon its surface from the dryest air. Now, open air passages (drains) under a dry soil, and the air will pass in through these openings and up through the soil, and the soil being colder than the air, will take moisture from it. In a hot dry day, the warm *surface* of the soil produces a rapid upward current of air which sucks up the air through the soil from the drains, and a vast amount of water is thus deposited in the soil. Go to the open end of a drain on a hot day and you will find such a strong inward draft, that it will put out a candle instantly; and we have seen the current so strong that it would draw in bits of paper, leaves, and other light substances. This air is a bearer of water to the roots of the parched corn and grain. This is no fanciful theory but sober fact, and has been proved a multitude of times.

We have then, among many others that might be named, the following advantages from draining land:

It prevents winter-killing of crops.

It warms the soil in spring, and lengthens the season of growth.

It enables one to work his land several days earlier in spring, and after rains.

It keeps the ground dryer in a wet season, and

It makes it more moist during a drouth, or during hot dry weather.

It is reasonable that a warm dry, drained soil should be far more productive than if without such treatment.

Two Hours with Mr. Rarey.

USEFUL HINTS ON BREAKING AND TRAINING HORSES.

During the past month, Mr. Rarey has been entertaining and instructing the citizens of New-York, and thousands who have come in from the surrounding country, with lectures and illustrations of his theory or system of breaking and training horses. We very cheerfully accepted his invitation to spend a couple of hours in listening to his explanations and studying the practical application of his method upon several horses. His quiet manner, and evident consciousness of being in the right, are calculated to win favor. The principles at the foundation of his method are so self-evident, that few persons can listen to him and see him operate, without coming away feeling that he is about right—or at least that he is no charlatan. We may mention an incident that illustrates the influence he exerts over those who hear and see him. When going through the process of subduing a vicious horse, he referred to the effects of kindness and an opposite treatment. A gentleman who sat by our side remarked: "I shall send my coachman to hear him if it costs me fifty dollars—it will be worth that to *my* horses." Several others sitting near responded that they should do the same thing.

In short, we endorse most of the teachings of Mr. Rarey; they are such as we have, for years, tried to inculcate in the *Agriculturist*—though in a less clear and definite manner than is done by him—and we think he is doing the country a real service in these exhibitions and lectures. We will try to give our readers some intelligent idea of the subject by a brief outline of a part of one of his entertainments, throwing in some of his remarks in "quotations."

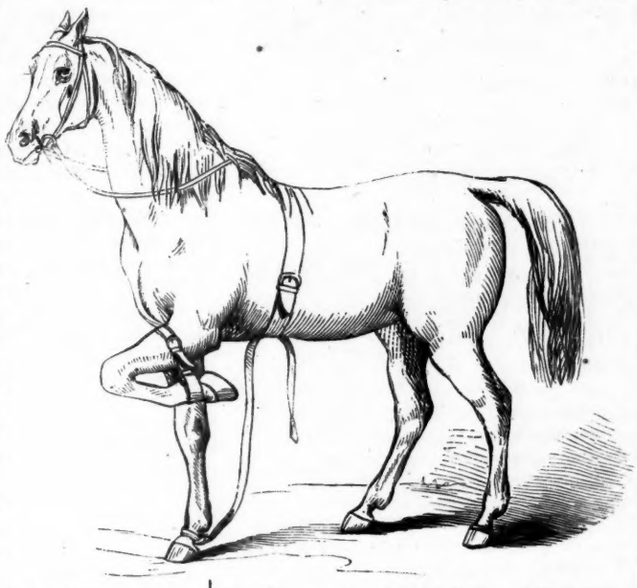
A horse is brought in, said not to be a bad one. Mr. Rarey approaches him in a firm, but gentle, soothing manner, rubs his face, pats and fondles him, until the animal seems to really take a liking to him on first acquaintance. He so far gets the good will of the horse that he readily follows him by barely touching the bridle. He next ties a straw in the bit, and the horse leads as well with this as with a halter, and even better. "All hard bits, and hard pulling make hard mouths; your barbed, and curbed, and crooked bits only toughen the mouth and stir up resistance.....The horse must be treated as a *thinking* animal, in part.....A horse always carries himself more gracefully, and is more readily guided by a lady rider, than by a man, because the former carries an easier rein....."

A vicious, biting, kicking, untamed horse was brought in. His first manifestation was to bite, but Mr. Rarey was quickly at his left side, and seizing the bridle hanging over the neck, he began to turn the horse round to the right (away from himself,) by pulling the strap over his neck in that direction. The horse thus turned round, was too busy in keeping his center of gravity right, to stop to bite or kick. "If you are riding or driving a horse hard on the bit, and he attempts to run, or rear up, don't pull straight back with both hands, but with one rein turn him round if riding, or first one side and then the other if driving. This will require so much effort on his part to keep square on his feet that he will neither run nor rear." ....."A balky horse may usually be started by simply turning his head round so as to disturb his center of gravity." Having pretty thoroughly diverted the horse's attention by frequent turnings, he next gets up the *near* foot, and buckles a strap around it. (See engraving on next page). "To raise a fore foot readily, press one hand upon the shoulder (keeping his head turned from you with the bridle strap if he be vicious) and with the other hand strike the leg gently in front; the horse will involuntarily raise it up."

When one leg is thus fastened in a bent or doubled position, the horse is compelled to stand and hobble round upon three legs. This of course also requires his whole attention. He is then turned round and lead about, *on three legs*, until he manifests considerable anxiety. A strong strap or belt is then buckled round the body behind the fore legs. A long small strap is thrust under this, and one end fastened to the right fore leg, below the fetlock joint. The other end is held in the hand, and as it passes under the body strap, pulling it raises the other fore leg. The horse is then led round, and when he raises the off leg to hobble along, a gentle pull on the strap doubles it up and the horse is brought upon his knees. Holding the strap firmly in the hand will prevent his straightening out the leg, and he is kept upon his knees. "In all these movements keep cool but firm. Exhibit no temper, but act as if conscious of your superior power, and do not irritate the animal."

The strap was made fast to the belt so that it was impossible for the horse to rise from his knees. While thus kept on their knees, some of the wilder horses floundered a good deal. Mr. Rarey sometimes left them alone to fight it out by themselves, but he usually kept turning the head round to induce them to put forth ef-

fort, and thus more readily learn that they were in his power. A thick bed of straw prevented injury to the knees during this floundering. Sometimes an animal holds out a long time, but usually in from three to seven minutes you can plainly discern that his spirit is being conquered, and that he begins to be sensible of his helplessness. You can see an imploring look in the eye of the most vicious animal. After a few more struggles he gives up completely and stretches himself upon his side. His muscles relax, and he permits himself to be handled in any way you desire. The result is the same in every case. When the horse yields—and every horse will yield under such treatment — he y i e l d s completely.—When this point is reached, Mr. Rarey soothes him to show he is a friendly conqueror; and handles him in a variety of ways—lifts up his feet, lies down on him, strikes his fore and hind feet together, sits astride of him, opens his mouth, sits upon all parts of his body, etc. In one case the horse sprung upon his knees and tried to resume control of himself, but after trying it awhile, again laid down and gave over the struggle entirely. When evidently subdued, the straps are removed, and the various evolutions and manipulations are performed again. He lays down between the feet of the previously kicking horse—in short, does exactly what he pleases with the animal. We could hardly have believed so complete a subjugation possible, in so short a space of time, and by so simple a process, had we not seen it repeated upon a variety of horses of known wildness, and vicious, untameable propensities.



After the horse has lain for ten or twenty minutes, more or less, and learned not to fear or be alarmed at any movements of his conqueror, his head is raised up and his fore feet are placed out for him, when he is invited to get up. He does so, and then the manipulations performed while he was down, are repeated upon him standing, and with just as much facility. His feet are handled, his mouth opened, the operator sets astride his back and neck, and upon his rump, lays down under his feet, puts them on his breast, etc.

The philosophy of this matter is simple and self-evident. Firmness, calmness, and kindness, are requisite, and with them we feel quite sure that Mr. Rarey's simple process will effectually subdue any horse. That a few repetitions of the process will be required with many horses is doubtless true; but a few half hours will be well expended, if they suffice to "tame" a horse good in other respects.

A horse was brought in which was evidently afraid of a drum. Mr. Rarey took the instrument and held it out for the horse to smell of, until convinced that it was no dangerous animal. It was then rubbed against his head, and all over his body, until he paid no further attention to it. It was then set upon his rump, and very gentle taps given. These were gradually increased until smart strokes were given without disturbing the animal. He was made acquainted with it, and learned for himself that it was harmless.

A colt was then brought in, unused to the saddle. He was introduced to the saddle just as the other horse was to the drum, and in a few minutes allowed it to be put any where upon his back. After the "taming process", the saddle was put on and sat upon, and after his subjugation, he allowed himself to be freely mounted and ridden. "Never jump at a horse, or approach him suddenly, or *throw* a saddle upon him. An unbroken horse will allow it to come in contact with his nose, and be gradually put upon his head, and over his neck to his back, when he would not let it be brought up to his side where he could not first examine it with his nose.....Never cause a horse to jump from you. ....In getting upon a saddle never stand directly against it, so as to push the toe against the horse's belly, and also turn the saddle over. Stand behind with your right side against the saddle; put the foot on the stirrup so that it will be pushed *forward;* then seize the mane with your left hand, and you can easily raise yourself up and swing over the saddle."

For the American Agriculturist.

Stumbling Horses.

No fault of horses is more annoying or dangerous than the not uncommon one of *stumbling.* It may be traced to one or more of these three causes: malformation, weakness, or disease. Some may add that of carelessness on the part of the animal; but this, without the others, would not produce it; for with a sound, well developed shoulder, breast, and fore leg, unimpaired in strength, the horse does not need to give especial attention to his movements even on a rough road.

The first cause, *malformation,* may show itself in a narrow chest; a shoulder blade rising too perpendicularly from the leg; a small, unmuscular "fore arm;" knees more or less "sprung;" a badly shaped pastern, or hoofs too slanting and large, or upright and small. The fore parts of a horse give sure-footedness or its opposite, and should be most carefully scrutinized.

Second—*weakness.* This may proceed from and be detected by malformation, as a badly formed horse is, other things being equal, weaker than a well formed one; or it may be occasioned by injuries, such as strains, colds, bad shoeing, or excessive work.

Third—*diseases* of any kind in the shoulder or hoof may cause stumbling, not only on account of the weakness produced, but from the effort of the horse to relieve the painful part, he will lift his feet but slightly, or perhaps point the toe downward, either of which will cause a liability to stumble. This is the case particularly with foundered horses, and with those that by bad shoeing have "corns." In one animal of my own, the first perceptible symptom of the presence of *corns* was repeated stumbling. A few days after, she was lame, and on removing the fore shoes, just in the "angle" of the hoof were well developed corns. Proper shoeing and careful use for a few days remedied the evil.

The cure for a stumbler is, in some cases, easy, but more generally it can only be partially reached or is beyond human skill. If disease or injury has weakened the limb or its connecting muscles, whatever will restore health will be a cure. If the evil is permanent, or proceeds from malformation, then the animal should be put to such use as will not render him liable to stumble, or will allow him to fall without risk to life or limb. Such a horse is especially unfit for the saddle or for shafts.

Some palliatives may be found in the proper management of the horse, such as holding a moderately tight rein, and maintaining a lively mood in the animal, keeping the head well up and chiding him *judiciously* when he stumbles. If the head is allowed to hang down, the horse becomes negligent of his steps, and moreover, the weight of the head and indeed of the whole body is thrown upon the fore legs, more than when the head is well erect. Some good authorities to the contrary notwithstanding, a rather short check and a firm rein, do render a horse less liable to stumble. An occasional touch of the whip to keep him attentive is also beneficial.

One other much mooted point is, *punishment for stumbling.* Nothing can be more cruel or senseless than the habit of whipping a horse for an act which is involuntary on his part, or the result, perhaps, of former cruelties. It is dangerous too, for if a horse is made to expect the lash whenever he stumbles, he will immediately after each mis-step, start off at a rapid gait. When, as is often the case, by the violent effort of the horse to recover himself, he has broken some part of the harness or carriage, it is impossible to stop him promptly, for he is expecting the usual application of the whip. Yet it is not best to allow the fault to go altogether unnoticed or unpunished, for undoubtedly inattention or carelessness on the part of the horse does very often aggravate the evil. When you are sure that this is the case, at each false step, check him up forcibly, and chiding him with a few sharp words, bring him to a stand. In some cases, a smart stroke of the whip may be allowed, but never until he is brought to a halt (not then if you are angry) By this means he will soon be taught to stop instantly after he has stumbled, and if the harness be broken, he will be less liable to attempt to run away; while the slight pain to the mouth, and your chiding, will do all that can be done toward making him more careful.

HORSEMAN.

Pleasure is sometimes only a change of pain. A man who has had the gout, feels first rate when he gets down to only rheumatism.

For the American Agriculturist.

Dairy Farming on Long Island.

In this part of Queens Co., especially along the line of the Long-Island railroad, many of us farmers are giving considerable attention to raising pure milk for New-York and Brooklyn consumption. Our farms are generally of good size, ranging from 100 to 200 acres, so that we have ample grazing land, and sufficient to raise our hay and corn for winter feeding, although some of us find it more profitable to sell a part of our hay, especially when it brings $20 per ton, the present price, and buy "corn starch feed," (corn after the starch has been taken out) at the factory and mix with corn meal, shorts, etc. We find it economy to feed high, and can profitably keep the same cows some 4 years; but they should be allowed a rest of from 8 to 12 weeks before calving, to renew their strength and milking powers. I find they pay good interest for such treatment, coming in vigorous, and with a fine flow of milk.

Our milking is done with reference to the trains running to the city; usually at night and morning, however, except some three months in the Summer season, when milking is done at noon. The milk cans, after filling, are placed in tubs of cold water and well cooled before leaving our farms. The milk is conveyed to the city twice a day in the Summer, and once in the Winter, from this station, 30 miles from the City. The freight is now 50 cents per 100 quarts, or 2 cents per gallon. We receive 3½ cents per quart, for six Summer months, and 4½ cents during the Winter, delivered in the City. Our contracts are with milkmen who retail it at the houses for 6 and 7 cents per quart.

Some few farmers keep 30 to 40 cows, but I think the general opinion is not favorable for so many on an ordinary farm, requiring a large outlay for their feed, above the products of the farm. I am now milking but eleven, and get about 100 quarts per day, which is considered a good yield, some of the cows having been milked 9 months already. Upon the approach of cold weather they declined in milk, falling to some 80 quarts, when I had them comfortably stabled most of the day, as well as at night, allowing them ample time to drink and ramble in a large field in the middle of the day, and the yield was very soon increased to 100 quarts with the same feed. About one bushel of cut feed mixed with meal, shorts, starch-feed, etc., is given to each, daily, besides as much straw, and stalks, as they will eat.

As we raise considerable corn, we have abundance of stalks to feed out. If given whole, the cattle eat but a small portion of them, and the long coarse butts are a great annoyance in the manure heap. Some of us have tried cutting them up, but the sharp edges sometimes prove injurious to cows. I have recently tried a corn stalk cutter and grinder, which first crushes, then cuts and picks the short pieces into shreds. It is worked slowly with one man to turn, better with two men, and still better when attached to an endless chain horse-power. With the horse-power I cut four bushels per minute; and am now mixing it with corn meal, shorts, etc., feeding the cows with hay but once a day. In this way I can save a great deal of the hay formerly consumed by the cows. W.

Queens Co., L. I., 1st Mo., 1861.

A DOGGED ADVERTISEMENT.—It is said that in San Francisco, they have a way of making dogs useful for advertising purposes. A white pup is seized, and the owner's business card painted upon both his sides: he is then allowed to run in the streets upon a dog-trot—a peripatetic advertisement of a fast people. It is calculated that a lively dog is worth five dollars per day, for such purposes.—'Hem! Shall we have to recall what we have said in the *American Agriculturist* against dogs in general, and make an exception in favor of *white* ones? Yes, and the *black* too, for they can be painted in white.

What the Humbugs are Doing....II.

IMPORTANT HINT ON ADVERTISED "DOCTORS" AND "MEDICINES."

Last evening, in looking over the columns of an exchange paper, we counted *fourteen* advertisements of parties in New-York, Boston, Philadelphia, and Cincinnati, each one of which advertisements set forth the skill of some "old," "experienced," "benevolent," "humane," "retired physician," or otherwise, and in an earnest, almost irresistible manner, besought the privilege of curing the thousand and one ills and maladies which human flesh is heir to. To-day we have glanced over several hundred exchange papers, and noted the same general class of advertisements, and in most cases they were marked to be inserted six months or a year. There were "doctors," or "sure medicines," for lung diseases, consumption, deafness, headache, loss of sight, loss of manhood; for female complaints, etc., etc., etc.

We sallied out to hunt up some of these "doctors," "old physicians," etc., in this City, but no one was "at home,"—as is usually the case, when any one calls upon them. Send your money through the Post Office, and *that* will surely find them at home, or at least some one who will answer to the advertised name, which is generally a fictitious one. Somebody pays for the enormous advertising, referred to above, and that somebody is the country people; yes, and city people too—those who will apply *through* the Post Office. Now, friend reader, let us repeat a rule, which we gave sometime since:

We know not of a single ear doctor, lung doctor, eye doctor, female doctor, private disease doctor, or any other doctor, who is in good repute among medical men at home, or who is worthy of reliance, who offers his services or medicines abroad by general advertisement or private circular.

This is a sweeping rule, and we so intend it. "But," says a letter before us, "I experienced great relief from such a medicine." No doubt you did. But here is the reply. These various medicines usually contain some cheap tonic, stimulant, or cathartic, and the person who takes them, *at first* experiences a stimulating or soothing effect, and believes himself on the high road to health. In a majority of cases, the sickness itself is imaginary, and the advertisement, or the label on the medicine, is all that is needed to effect a cure. The medicine gets the credit of it, and the resulting recommendations cost the country some hundreds or thousands of dollars.

In the case of "Pills"—"bilious" "anti-bilious," "nervous," etc., etc., etc.—they are nearly all of them, (no matter what the *name*,) composed of some cheap cathartics, as aloes, scammony, rhubarb, etc. Now, most temporary ailments are the results of derangement of the stomach or alimentary canal, overloading the stomach, and especially of constipation, (costiveness.) In nine cases out of ten, headache arises from over-eating, or costiveness. As a matter of course, a cathartic pill, producing a movement of the bowels, will temporarily relieve the system; and as every one "feels better" *after* such an operation, the medicine gets credit and—sale.

Ask your physician or druggist for a simple cheap, home-made cathartic pill, and we stake our word and "medical" reputation for it, that you will have a *safer, cheaper* medicine, and one that will, in 999 cases in a thousand, prove quite as effectual as any of the thousand and one advertised pills. Abstinence or partial abstinence from food is usually the best medicine—the system is thus allowed to right itself. If one is sick enough to need medicine, he needs the special skill of an experienced physician. These universal remedies are contrived to produce temporary *apparent* good effects, but the after results are quite likely to be bad. In sickness absolutely requiring medicine, and especially in cases where these advertised pills are apparently useful, the home-made pills are preferable. A simple dose of these, followed by moderate eating (chewing the food well as recommended for children on page 53), keeping the feet dry and warm, and avoiding cold drafts of air or night chills, will result in a perfect cure in nearly every case of temporary derangement of the system.

Dont read the medical advertisements; they are generally so worded as to make the well *think* they are sick, and that there is only one cure for them, viz. the medicine advertised.

DR. (REV.) WILSON.—Several persons desire us to show up this excessively benevolent worn-out preacher, who belonged to the "New Haven Conference" which Methodists themselves never heard of, except through him. We have some of his recent circulars and letters, and other information, which show that he is still operating. For his portrait see Vol. 18. pages 189 and 231, (July and Aug. Nos., 1859.)

ANOTHER SEED SWINDLE.

Here is a copy of a document being scattered over the country at the present time, through the mails. A large number of copies are daily sent to us. Look out for this, and half a dozen others that will flood the country as the planting and sowing season approaches.

"JAPANESE WHEAT.
TO FARMERS AND OTHERS.

We have a quantity and shall keep constantly on hand a new kind of Grain, known as Japanese Wheat, which we have secured at much expense, and we are the only persons in the country who have it in merchantable quantities. This superior grain has many qualifications that should recommend it to every farmer in the United States and Canadas. It matures in about twenty days less time than Oats, and can be grown in any part of the country, for it will ripen if not sown until July; it also is raised with as little care and expense. It is unlike other wheat in every respect, except it makes a very fine white Flour. It is a most remarkable grain to stand severe drouth. It has grown the last season by actual measurement, at the rate of

300 BUSHELS PER ACRE.

We know from actual experience that it will average from one hundred to one hundred and fifty bushels per acre as a field crop, and it will yield fodder at the rate of three to five tuns, that is equally as good for any kind of stock as the best Timothy or Clover hay. The heads will average ten inches in length; the grains are quite small. The stalk is sufficiently strong to support the head and prevent it from lodging. The grain for feed is equal to Corn, and some contend, after examining it, that it is even better for all kinds of stock, particularly horses. Hogs will fatten well on it. It weighs 56 lbs. per bushel.

This is a correct description of the grain, for the truthfulness of which we can give, if required, references or certificates of very reliable farmers who have seen it growing, and the grain after it was harvested.

Any person that will send us one dollar in gold, or currency, we will send them by mail, postage paid, a sufficient amount from which they can raise enough to grow the following year at least 300 to 400 bushels. Directions will accompany each package."

Yes, Messrs. Advertisers—"keep it on hand" by all means; we'll help you do *that*, and trust you will long be the "only parties in the country who have it." "Known as Japanese Wheat," is it? By whom, pray, except you who have it to sell, and who gave it the name to deceive the public? Why did you not give a

certificate from the Japanese Commission, while your hand was in? Why don't you honestly say: "We have a lot of *millet seed*, which we want to sell at one dollar a handful." The reason is plain. Millet, or Hungarian grass seed can be bought for a dollar orso per bushel.—If our readers want any of the article, let them buy it by its proper name—don't send for "Japanese Wheat." The "300 bushels per acre" story, is too monstrous for any man of ordinary capacity to swallow. Messrs. Humbugs, you stretched that statement until it was transparent—all ought to see through it, and discover the swindlers standing behind.

Query—This scheme hails from the city where the Honey Blade Grass swindle started. Is it an "operation" by the same parties who played that game? Perhaps this is part of the old seed left over after the sale was stopped by the exposure of the scheme in the *Agriculturist*.

P. S.—Since penning the above, a Western correspondent writes: "The seed is here sometimes called 'Mexican Rice,' 'South American Wheat,' 'Sugar Cane Wheat,' and other names too numerous to mention. It makes a flour somewhat similar to buckwheat, but not so good. The stalks can be used as fodder, but are not equal to corn stalks. The seed can be bought here at 50 cents per bushel!"

Permanence of Bone Manure.

The Mark Lane Express, in speaking of bone manure, states, that one of the most valuable qualities of bones is the slowness with which they decompose, and the length of time during which they continue to give out the phosphates. Analysis shows that one pound of bones contains as much phosphoric acid as 28 pounds of wheat. Now a crop of wheat of 32 bushels to the acre, contains only as much phosphate as is found in 70 pounds of bones. It is clear, therefore, that if bones are put on at the rate of 350 pounds per acre, supposing them to decay rapidly, and give out the phosphates in proportion, a large part would be wasted. But the following circumstance proves that this is not the case. A gentleman who occupied a large farm in Norfolk, finding that he was likely to have a quantity of bone dust left, if he distributed it at the ordinary rate, directed his foreman to increase the quantity per acre. On the following day he found that the man had *doubled* the allowance, and that, at that rate, he would not have enough to finish the field. He therefore directed him to use about 4 cwt. per acre for the remainder of the field. Now mark the result. *Eleven* years after, the farmer on riding over his land with a friend, came to this field, which was for the third time after the above occured, sown under wheat, and requested his friend if he saw any difference in the growth of the wheat, to point it out. After riding a few yards, his friend suddenly stopped and exclaimed: "What in the world have you been after here? This wheat is six inches higher and as stout again as the rest." The farmer then explained to him the facts above stated, which prove that by the deliberate manner in which bones give out the phosphates in decomposition, they possess a more permanent value than any other kind of manure.

REMARKS.—We find the above in type, prepared by an associate. It needs a word of explanation. On wet, cold soils, bones in a coarse condition will often remain many years before being fully decomposed, while their gradual decay will furnish some nutriment to plants from year to year. On warmer soils, they will decay speedily, especially if finely ground. But *we* attribute the benefit of bones mainly to the *organic matter* they contain, and not to the phosphoric acid as stated above. Burned bones retain all the phosphoric acid they contained in their unburned state, but we have yet to learn of any material benefit from *burned* bones. When made into superphosphate, the added acid and other materials probably give the compound its principal value.—ED. AMER. AGR.]

How Mr. Jones Tilled his Land.

(*Continued from page 8, which see.*)

INSTRUCTIVE EXPERIMENTS.

My first experiment was in deep plowing, including also the use of lime and manure. After the corn was removed, in November 1853, I plowed three acres as deeply as I could, with two yokes of heavy oxen and a horse as leader, say 12 inches deep. The next two acres were plowed about 10 inches deep; the next two about 8 inches, and the next two 6 inches, running the furrows lengthwise of the field. In Spring the field was divided into three equal parts *across* the furrows, and corn, oats, and peas put on. This arrangement brought a portion of each kind of crop upon the different depths of plowing. Part of the rows of corn were treated to lime in the hill; part to a little barn yard manure in the hill; and a part had nothing applied. So, also, a part of the ground for oats and peas received a surface dressing of lime harrowed in; part received a light dressing of manure; and a part received nothing.

Here is a plan of the field. It was easily laid out thus, by stakes on each side of the field.

	Nothing.	Manure.	Lime.	Nothing.	Manure.	Lime.	Nothing.	Manure.	Lime.	
3 acres.	1	2	3	4	5	6	7	8	9	Plowed 12 inches deep.
2 acres	10	11	12	13	14	15	16	17	18	10 inches.
2 a.	19	20	21	22	23	24	25	26	27	8 inches.
2 a.	28	29	30	31	32	33	34	35	36	6 inches.
	Corn.			Peas.			Oats.			

We did not stop to even measure it, but used fence corners as divisions or measuring points, in putting the stakes for plowing, applying manures, etc. You will see that by this simple arrangement I obtained 36 plots; the first nine containing nearly ¼ acre each, and the other 27 not quite ¼ acre, all differing in the depth of plowing, or kind of crop, or manuring. The plan was sketched on paper, and the numbers marked with a pencil on the small stakes set up around the fence. No great accuracy was aimed at, in keeping them separate, yet each plot was sufficiently distinct to be easily examined.

On the portions plowed 12 inches deep, (plots 1 to 9,) the crops were all poor; those on 1, 4, 7, with no manure, were very poor. On the manured plots, 2, 5, 8, they were a little better, and still better on the limed plots 3, 6, 9, though hardly good enough to pay expenses. The corn showed most benefit from the lime on 3. The oats on 5, with manure, were nearly equal to those with lime, on 6. The best peas on the 12 inch plowing were on 9, with lime.

On the 10 inch plowing, (plots 10 to 18), the crops were all better than on the 12 inch, but still the yield was not satisfactory. Nearly the same comparative differences were found as in the 12-inch plowing in the use of manure, lime, and no manure. The best corn was on 12, with lime; the best peas on 15; while the oats on 17 and 18 were nearly alike.

The best crops were on the 8 inch plowing (plots 19 to 27;) but here the manured plots 20, 23, 26, were better than the limed plots, 21, 24, 27. The poorest yield by one-fourth was on the unmanured plots, 19, 22, 25. The corn and peas appeared to show better results for the lime than was exhibited by the oats.

On the 6 inch plowing, plots (28 to 36,) the crops were considerably better than on the 10 inch and 12 inch plowing, though the corn on the 6 inch and 10 inch were about equal. But on the shallow plowing, the manured plots, 29, 32, 35, were plainly ahead of the limed plots 30, 33, 36, and far ahead of the unmanured 28, 31, 33.

The results of the above experiments were quite instructive to me, and furnished much matter for study and reflection. The poor show on the deepest plowing, 1 to 9, staggered me, and I was at first disposed to condemn deep plowing. But the fact that the crops on the 8 inch plowed plots, 19 to 27, were better than on the 6 inch deep, showed plainly that partially deeper plowing was useful; and a timely article in the *American Agriculturist* taught me that such results might have been expected. The fact was, the lower six inches turned up by the deepest plowing, had never been exposed to the air, and being a heavy loam, and partly filled with what you called poisonous sub-salts of iron, it was not fit for any crop. It is probable that nothing would have grown, but for the fact that it was plowed in Autumn, and the action of frost and air during winter partially ameliorated it. The better results from the lime on plots 3, 6, 9, also showed the presence of poisons partly neutralized by the lime.

The better results on the 10 inch plowing, where only four inches of new soil were brought up, confirmed the views you offered in regard to the necessity of the action of air upon a soil to fit it for plants.

On the 8 inch plowing, the two inches of new soil brought to the surface were so thoroughly prepared by frost and air, even during the first winter, that, with the greater depth for the roots, the crops were by far the best—better than on the deeper or shallower plowing.

Another noteworthy result, in the above experiments, was the fact that, on the shallow plowing the manure was more effective than the lime, while on the deeper plowings the lime was most beneficial. This showed plainly that the lime acted as a corrective in the newer soil, and was not so much needed on the old thin soil.

The better yield on plots 30, 33, 36, where lime was applied, than on plots 28, 31, 34, where nothing was applied, showed, however, that lime was useful under any circumstances for my moderately heavy loam land, and I have since used it pretty generally—always with positive good results, where a small portion of a field has been left without the application, for comparison. And I may add, that so far as my experiments go, the teachings of the *Agriculturist* are correct, that a little lime, more or less according to the heaviness of the soil, applied to every crop, or on the land before it is seeded, is preferable to heavy liming at long intervals.

Before leaving the above experiments, let me add, that the deepest plowed portion of the above field continued to improve rapidly, and

even the next crop was better on this than on the 6 inch plowing, and the 10 inch was better than the 8 inch, showing that air and freezing ameliorated its harsh qualities, and that when this was done, its greater depth was more congenial to the plants.

Not being able to spare the field that year for further uncertain experiments, I sowed it to wheat. After the removal of the crop, a light coating of manure was spread on and turned under with the stubble, running the plow 8 inches deep. Upon the plowed surface I sowed broadcast and harrowed in 100 bushels of lime on the four acres plowed 12 inches deep; 40 bushels on the two acres plowed 10 inches; 30 bushels on the two acres plowed 8 inches; and 20 bushels on the 6 inch plowing. The wheat was then sown and harrowed in, rather late, but I obtained a good yield—the best on the 10 inch plowing, as above stated. Clover seed was sown on the growing wheat in the Spring of 1854, and a good setting obtained. In the Autumn of this year, having read your series of articles on draining, I determined to experiment again. Drain

HOW MR. JONES DRAINED.

tiles were out of the question as none were to be had; so I resorted to stones. A considerable supply of small round stones, with some bolders, had accumulated around the fence and in heaps where we had piled them as they had been gathered year after year from the surface. The larger stones were broken into convenient pieces, as broad and long as we could make them. A supply of flat stones was also obtained from a quarry two miles distant.

My drains were put 40 feet apart, running from the road back across the field, which rose about three feet in 30 rods. We opened the drains by using the plow to throw out the earth each way, continuing to go back and forth until the cattle could no longer walk, when we resorted to the spade, and sometimes to the pick, to loosen the hard subsoil. A trench was made 3 to 3½ feet deep, and 15 inches wide in the bottom. Boards 4 inches wide were laid along the middle, and then cobble stones, 6 to 8 inches in diameter placed along each side. The larger broken pieces, and the flat stones from the quarry were used as covering. The smaller stones were then thrown in as we chanced to have them. Some wheat straw was put on, and about a foot of soil thrown back with the shovel. After this had settled somewhat firmly, we filled in the rest with a plow, using a long yoke, so that the oxen could walk on either side of the ditch. When covered, the top of the stones were about 2 feet below the surface.

We worked at this ditching for nearly a year, at odd spells, as we could find time. I employed two newly arrived Irishmen who were handy with the spade, and but little acquainted with other work, paying them $7 to $8 a month and boarding them, and using them for other work when it could be done to advantage.

The outside cost of the 775 rods of drains, did not exceed $160, or $16 per acre; for most of it was done when the men and teams would not have been doing much elsewhere; but had it cost $500, it would have been money well put out. I should have remarked, that while the draining was going on during the summer of 1855, the field was used for a pasture, and though considerably broken, it afforded a good deal of feed.

In the Autumn of 1855 I put on what manure I could spare, about seven wagon loads to the acre, using most over the ditches where the clover was not growing. The manure and second growth of clover were turned under, and 350 pounds per acre of plaster sowed on and harrowed in, after which wheat was sown. No clover seed was sown in Spring. The yield of wheat harvested in 1856, was 26¼ bushels per acre, against 21½ bushels on an adjoining field, similar to it in all respects, except in not being underdrained. This looked like paying at once, the extra 5½ bushels of wheat per acre, being fully 30 per cent interest on the cost of draining.

SOLOMON JONES.

(Concluded in next Number.)

Experience in Liming Land.

[Our questions on the use of lime, page 11, are having the desired results, viz., to call out *experience*. Here is a straight-forward account, and our readers will understand, that it is from one who says he has never written a line for a paper before. If farmers only thought so, any of them could describe in a similar, plain, practical manner, the methods and results of their various operations. ED.]

MR. EDITOR: In answer to your questions, I will say that I have used over 25,000 bushels of lime on my land during fifteen years past, and ought at least to know something about it. My land is a heavy limestone soil, with heavy clay subsoil, not considered wet. The lime used, is burned from our "blue stone," and costs 9 to 10 cents per bushel, delivered. I use it air-slaked, or slaked with water, as may happen, only taking care that it be fine like flour, and not drowned with water. I apply 150 bushels to the acre, once in 20 years—the second application not as heavy as the first. [There must be a mistake here as to the "20 years," the writer having used lime only 15 years. See March "Basket." —ED.] It is applied on clover sod, and used for all crops, but manuring must not be neglected.

Now for the practical results. In 1845 I limed part of a field with 80 bushels to the acre, on oat stubble, with stable manure. The remainder of the field was also manured, but without lime from that day to this. There was no difference in the crops in favor of the lime, which I can only account for on the supposition that there was not enough lime put on.

Two years following, I limed a different field with 150 bushels to the acre on clover sod, some time in June. One acre, however, was left without lime, as I have been always ready to try some experiment. The lime was well air slaked, and then spread on the clover, and plowed under in July very shallow. In September I plowed it the same depth, to mix the lime with the clover, and sowed it to wheat. In four weeks after the wheat was up, you could see a great difference in favor of the lime. At harvest, the limed part of the field had one third more wheat than the other, which would more than pay for the lime the first year. The following crop was Fall barley, with the same result. Then it was put in clover, also with same result. No sorrel to be seen on the limed part, while the unlimed was very full. Then wheat followed again, with the same good result. Then it was put down in clover, but missed on account of the drouth. It the Spring following it was plowed, and put in corn, which grew very well for the first 4 weeks, when that on the limed part became yellow, striped, and sickly. I first concluded it was the wireworm, but never could find any. I came to the conclusion that it must be the lime, and on examination I found the unlimed part not affected, and the result was in favor of the unlimed 50 per cent. Now, I have often heard farmers say that their corn was injured by the wire-worm, but, in five cases out of six, I suspect it is the use of lime without manure, or some vegetable substance. I would advise all my brother farmers to make, gather, and save all the manure they can, for lime without manure, will make a man poor. In all my experience, I have received the most benefit from liming on the sod, at any time, even if not plowed under for a year afterward. The quantity per acre depends on the kind of soil.

Cumberland Co., Pa. J. M.

A New Silk Worm—Substitute for Cotton.

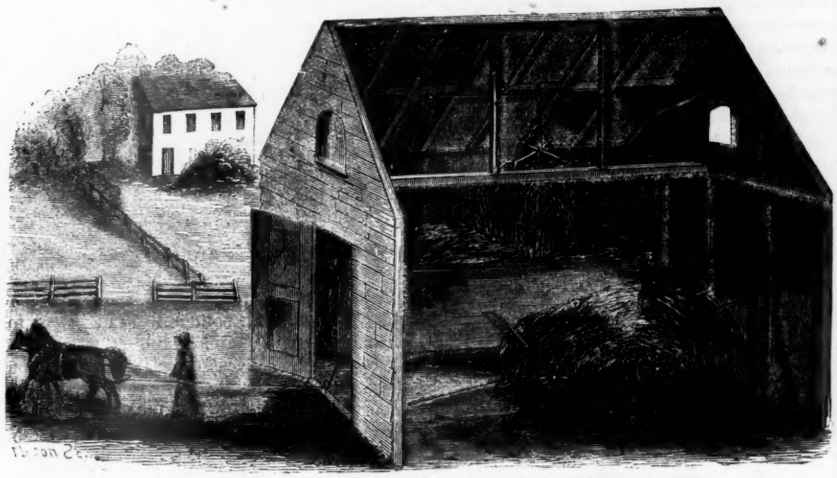
The following is condensed for the *American Agriculturist*, from our foreign files. The information appears to be reliable, and is given without comment by Dr. Lindley in the Gardeners' Chronicle. Here is, *perhaps*, a new field of enterprise opened—though we are not ready to endorse all the new discoveries of our French colaborers. The account runs as follows:

In March, 1859, a request was made of the French Emperor to provide the means of making an experiment on a large scale for the rearing of a new kind of Silkworm, which lives in the open air on a very hardy plant, the *ailante*, and produces two crops a year of a strong silky fiber which has been used for ages past in China, to make clothes for the great mass of the people. The authority was immediately granted, and the result, as now published, surpasses all expectations. More than three-fourths of the worms produced excellent cocoons, and it is now fully ascertained that the new worm gives a profit of 100 per cent, and often much more, whereas the Mulberry Silkworm is considered very successful when it makes a return of 15 per cent. on the capital employed. The silk of the *ailante* is of inferior quality, well adapted for coarse fabrics, and will form an excellent substitute for cotton, of which France annually imports 162,900,000 pounds from the United States. M. Guerin Meneville, who was the first to introduce the new silk into France, proposes to call it *ailantine*. He is now studying the best means of promoting the production and manufacture of the new silk, which he thinks will ere long supply the chief clothing of the people. The *ailante* on which the worm feeds, is the Ailantus *glandulosa*, one of the hardiest of trees, and very common in American cities and towns.

Our Cities—Population and Rank.

The following table will be interesting for present examination and future reference. It will be seen that the growth of several of the cities has been remarkable—8 of them having more than doubled in ten years. The first column shows the relative rank in 1860, and the last column the rank in 1850:

Rank in '60.	*City.*	**1860.**	**1850.**	*Actual Increase*	*Inc. P'k per c. '50.*
1	New-York	814,277	515,647	298,730	58— 1
2	Philadelphia	568,034	408,862	159,272	34— 2
3	Brooklyn	273,425	96,838	176,587	182— 7
4	Baltimore	214,037	169,054	44,983	27— 3
5	Boston	177,902	136,881	41,021	30— 4
6	New-Orleans	170,768	115,375	54,391	47— 6
7	St. Louis	162,179	77,860	84,319	108— 8
8	Cincinnati	160,060	116,435	44,625	99— 5
9	Chicago	109,420	29,963	79,457	265—18
10	Buffalo	84,000	42,251	41,739	99—11
11	Louisville	75,196	43,194	32,002	74— 9
12	Newark, N. J.	72,055	38,894	33,161	85—14
13	San Francisco	66,000	34,870	31,130	89—16
14	Washington	61,400	40,001	21,399	53—13
15	Providence	50,689	41,513	9,156	22—12
16	Rochester	48,096	36,403	11,693	32—15
17	Detroit	46,834	21,019	25,815	123—21
18	Milwaukee	45,323	20,061	25,262	126—24
19	Cleveland	43,550	17,034	26,516	156—29
20	Charleston, S. C.	40,192	42,985	loss 2,791	loss 6—10
21	Troy	39,633	28,785	10,868	96—19
22	Richmond	37,958	27,570	10,388	37—20
23	Lowell	37,069	33,383	3,686	11—17
24	New-Haven	30,277	20,345	18,392	90—22
25	Jersey City	29,256	6,856	22,400	327—35
26	Hartford	29,168	17,966	11,202	62—26
27	Cambridge	26,074	15,215	10,859	71—42
28	Roxbury	25,137	18,364	6,773	37—25
29	Charlestown, Mass.	25,129	17,216	7,904	46—27
30	Worcester	24,963	17,049	7,914	46—23
31	Nashville, Tenn.	23,715	10,165	13,550	133—34
32	Reading, Pa	23,171	15,743	7,428	47—31
33	Salem	22,486	20,265	2,222	11—23
34	New-Bedford	22,309	16,443	5,866	36—30
35	Dayton, O	20,132	10,977	9,155	83—38



BEARDSLEY'S HAY ELEVATOR, OR HORSE POWER FORK.

The advantages to be gained by the substitution of mechanical and animal powers for human muscles, in agricultural operations, have been so thoroughly proved, that he who refuses to avail himself of good labor-saving implements, must be content to remain in the rear rank among cultivators, both in ease of accomplishing his work, and in successful results from it. To aid those who are seeking such inventions, in making a selection, we publish, from time to time, illustrations and descriptions, that parties interested may examine them and form an opinion of their applicability. We prefer in all cases to study the actual working of apparatus before admitting illustrations; but this is often impracticable. The engravings here introduced, represent a recently patented horse-power pitchfork, invented by Levi A. Beardsley, Otsego Co., N. Y.—*Fig.* 2, shows the fork, and *Fig.* 1, the manner of arranging the pullies for working it. The directions for its use, as given by the patentee, are:

Fig. 2.

Place the fork on the load, lengthwise with it, and by stepping upon the rods that brace the tines, they will readily enter the hay. Set the hook and fasten the lifting chain to it by its ring. The horses can then elevate the fork-full, and when it is in the right place to be dropped, the man on the load pulls the catch cord, which he keeps in his hand, when the fork will drop a little, and by means of the side ropes, the tines are drawn wide open, and the hay is discharged. The spring on the upper end keeps the fork open, so that it is ready to enter the hay on the load when lowered by the backing of the team.

It is claimed that the two-horse fork can take up from one sixth to one fourth of a load to the fork-full, at which rate there must be a great saving of time, in addition to the relief given from the severe labor of hand-pitching. As stated above, not having seen this form of the implement in operation, we can not give a decided opinion upon its merits, but commend it to the examination of those interested. The price for the two-horse apparatus complete is $16. There is, we believe, a one-horse fork made by the same party; but there is economy in the use of the larger instrument. It takes but a few minutes to unhitch the horses from the wagon and attach them to the pulley rope, and they can, of course, raise a much greater weight at one time than could be done by a single animal.

For the American Agriculturist.

Self-Fastening Door-Catch.

The following was contrived on a rainy day, by one who was often annoyed by the flapping of the small barn-door against the sides of the barn. Push the door back against the sides of the barn, and with an inch auger, bore a hole through the weather-boarding and door; the auger striking the door an inch or two from the edge, and about midway from top to bottom. Fasten a pin tightly into the hole in the door, thin it a little so as to pass easily through the hole in the weather-boarding, letting it extend through two inches or more. Cut a notch in the upper side of the pin, large enough to receive a wooden spring. Taper the pin from the lower edge to the notch, so that the spring will slide into it. Fasten the wooden spring, made for the purpose, at a suitable distance, and it is done. If a door be accidentally left open, the first gust of wind will drive it back against the side, and the spring in the inside, sliding into the notch in the pin, fastens the door. F. M. Baker.

Centre Co., Pa.

(Editors please Copy.)

To All Agricultural and Horticultural Societies——Special Notice.

Not a week passes without a request from some Society in this country or abroad, for a partial or complete list of the various agricultural societies in a part or the whole of the United States. No such list is in existence, and yet one would be very desirable on many accounts. If the Officers of the various societies will aid in the matter, we will undertake to get up one at our own expense, as follows:

Let the Secretary of every State, County, Town, or other Agricultural or Horticultural Society throughout the country, send to the office of the *American Agriculturist* (41 Park-Row, New-York), a full list of the present officers; and then whenever an election takes place, let a similar list of the new officers be sent in the same manner, in the form given herewith.

We will prepare a book, allotting a page or part of a page, as may be necessary, for each county and its town societies, where such exist in the county. The States will be arranged alphabetically, and also the counties in the several States.

In this book, in the proper place, will be pasted the list of officers of each society. When a a new election takes place, the new list of names will be partially pasted over the previous one, leaving it so that the former lists can still be referred to when required. If this enterprise be seconded by the societies, there will thus be secured, at one point at least, a book for ready reference when ever required. We can not probably find room to publish more than a summary of the number of societies, but whenever any association desires to address a circular, or open correspondence on any topic, with other societies in its own or other States, there will be an accessible list.

Please send forward the lists systematically arranged in the following form.

Name of Society, (Stating whether State, County, or Town.)

State..... *County*..... *Town*.....

President.....Post Office Address.....

Vice President..... do. .....

Cor. Secretary..... do. .....

Recording Secretary..... do. .....

Treasurer..... do. .....

Managers..... do. .....

..... do. .....

..... do. .....

..... do. .....

Time and Place of Exhibition for 1861 (If appointed).

State....Co.....Town....Day of begin'g....Day of ending....

Date of Annual Meeting for Election of Officers, etc.....

N. B.—For the sake of uniformity, please follow the above form precisely; also spell and write the names *very plainly.* Let each name, and the Post Office address be written on a single line. Use foolscap paper, or paper of the width of foolscap, and let the names occupy as small a space as possible up and down, that they may not require a long space up and down on the page of the book. Let us have reports from Horticultural as well as Agricultural societies. Anything special in regard to the aim of any society, not indicated in its name, may be stated briefly directly under the name, above the list of officers.

Let these lists be closely written and on only one side of the slip of paper, that they may be pasted directly into the record book. Will the first officer or active member of any society who reads this notice, please see to it that some one forwards the list, that we may be able to finish up the work promptly while about it?

Our Neat Cattle—Are they Improving?

Every observant man who has, for the last dozen years, kept the run of the numerous importations into this country of the most popular English breeds of cattle, and who has seen them sold at high prices to eager buyers throughout the best stock-growing regions, will be ready to answer the above question in the affirmative. But let the same observant man witness the heterogeneous assemblage of beef cattle that every week come into New-York market, and he will be quite as likely to give a negative answer.

A hasty review of the introduction of improved breeds, may not be uninteresting. Early in the present century, Short Horns were imported into Virginia. They were taken to the fine grazing lands on the south branch of the Potomac river, and bred with care, and their descendants, crosses of the imported upon the native cattle, early gained a high reputation, which continues in that valley to the present day. Some of the descendants of the thorough breds were taken

to Central Kentucky fifty years ago, and some years later, descendants of the Kentucky stock were driven into the Scioto and Miami Valleys of Ohio, where they improved the native herds among which they were scattered. In 1817, Short Horns were imported direct from England to Philadelphia, and went into Kentucky, where they were crossed upon the Virginia stock already there. From 1818, down to 1825, occasional importations of Short Horns and Devons were made into Boston, New-York, Philadelphia, and Baltimore, and scattered into the country adjacent to those cities. They were bred with care, and considerably crossed upon the native cattle in their several neighborhoods, tending to a decided improvement, both in the beef and milking qualities of the stock among which they were disseminated.

Encouraged by their success in breeding from the early Virginia and Kentucky importations, in 1833 a company of spirited cattle breeders in Central Ohio, made a large importation of Short Horns from some of the choicest breeds in England. For several years afterward—up to 1839, we believe—these importations were repeated by the same association in Ohio, and other associations in Kentucky, besides some few importations by citizens of the States of New-York and Pennsylvania. The spirit of cattle improvement ran high, and the prices of choice stock became enormously inflated; but with the decline in value of all agricultural products in 1840 to 1845, the prices of *improved* stock fell down to as much below par, as they had ruled above, and the proud herds which, but a few years previous, had attained such wide distinction, now grazed in the fields of their crest-fallen owners, without purchasers, leaving scarcely a hope that they would again rise to paying prices. But, with the increased value of our American meats, and their demand for foreign markets, in 1852 and '53 our improved herds began again to look up, the demand became active, and importations for several years thereafter were made, of choicer stock than ever before, and in much larger numbers, until the financial revulsion in the latter part of 1857 again stopped them, as in 1839. A few importations have been made since, up to nearly the present time, but only of choice animals, chiefly to cross upon some select herds, and perpetuate strains of blood of great value in the estimation of their owners.

It will be seen in this running account of these valuable cattle in our country, that they must have become widely disseminated throughout all our stock breeding States, and crossed as they have been, very generally, upon the native stock, they should have improved the character and value of our neat cattle in an eminent degree, aside from their own multiplication as a distinct race, in their own distinctive blood and lineage. There are now more than five hundred breeders of thorough-bred Short Horn cattle in the United States and the Canadas; probably a hundred breeders of Devons; besides numerous breeders of Herefords, Ayrshires, Alderneys, and Galloways, these being the chief breeds of British cattle which have attracted the attention of American farmers.

As a consequence of this diffusion of improved blood in our herds, the standard, both in weight and quality of our beef, is higher than before it was introduced, while our cows are decidedly better milkers than of old, and of increased size, or otherwise, as they partake of the blood of either of the breeds from which they are descendants.

Another benefit has followed this infusion of better blood into our native cattle. The method of keeping them is an improvement over the old practice, when we had nothing but the common ones to look after. Improved herds will not bear *starvation*, without a fatal detriment to their appearance and value; while the old stock, by neglect, had become constitutionally inured to it; and nobody appeared to consider it necessary—aside from purposes of immediate profit in their growth, labor, or milk—to keep them above the mere *living* point of existence. There is still too much of this profitless practice throughout the country. It is not only a loss to those who follow it, but it has a directly injurious effect upon the breeding of choice cattle. Many butchers buy almost worthless stock, because it can be had at a low price. Their customers are from the poorer classes, who are deceived with the cheap rate at which they purchase their meat, not considering that it is the dearest food they can buy. This state of the market keeps down the price of well fed, choice cattle, below a paying point, and has had a discouraging influence on breeders of improved stock.

Yet, notwithstanding this draw-back, there is abundant evidence that a more rational system has commenced. As our general agricultural practice improves, this most important branch must continue to advance, until, at no distant day we hope, the stock of the United States will stand foremost in the world.

Apples Good for Cows.

Now, while cattle can get so little food that is succulent and refreshing, it is well to cast about for everything that can in any way supply this lack. Potatoes, turnips, carrots—if these are not all gone—let an occasional mess find its way to the feeding troughs, especially those of the milk-givers. This year, where apples are abundant, let them not rot for want of use. Look over every barrel and box, once a month at least, cull out the small and defective ones, and feed them out to the cows, from time to time, as they may be needed.

Too little use is made of the apple—sweet ones especially—as food for stock at all seasons of the year. Every dairyman knows that soon after the first frosts appear, his milch-cows begin to dry up, and need to have messes of some sort to keep up the abundance and richness of their milk. Let a few apples form a part of their daily dessert, and the effect will be apparent. And if the same mess is continued at intervals through the Winter, it will be very advantageous. Some persons, we know, have formed a different opinion, from seeing the bad effects of apple eating upon cows, when they have accidentally broken into an orchard, and gorged themselves with forbidden fruit. But suppose they had been allowed a few apples every day, would such results have followed? Horses are sometimes injured by eating grain to excess, and by drinking cold water at unsuitable times; are grain and water therefore bad for horses?

In the numerous orchards now being planted all over the country, it would be wise economy for the farmer to appropriate a section for the use of his cattle. As to the varieties best for this purpose, cultivators do not seem to be yet agreed. All that has been looked for, thus far, has been productiveness and hardiness. It would be well if a list should be made out of those ripening at different seasons, for a succession. The "Country Gentleman" proposes several sorts for such a list. For example, the *Hightop*, for Summer use. *Coolie's Sweet*, *Jersey Sweet*, *Munson's Sweet*, and *Pumpkin Sweet*, for Fall feeding. And for Winter, the *Sweet Pearmain*, the *Wing Sweet*, and the *Green Sweet*, the last named keeping quite late into the Spring. As will be seen in another article in this No. we are taking measures to secure long needed reliable information on this topic, of the best selections of fruit for particular localities, which will be invaluable. (See page 49.)

Good Stock are Cheapest.

A bullock of improved breed, at three years old, will be superior both in size and weight to one of the coarse, common kind at five years. Two years' feed and trouble are thus wasted upon those animals which by their nature are fitted to transmute hay and grain into hide and horn and bone, rather than into meat. In *quality* of flesh, the well bred steer as far exceeds the coarser brute, as the rich melting flesh of a Bartlett or Virgalieu pear is superior to the astringent, gritty substance of a wilding.

When choice cattle were rare, when a well bred Short Horn, or Hereford, or Ayrshire, could only be weighed down by a purse of $1000 to $2000, it was too much to expect that men of moderate means, the great middle class of farmers, should become enthusiastic in improving their stock. But now, the better breeds are so widely disseminated over the country, that they are easily and cheaply obtained. Young bulls, thorough bred of their several kinds, abound. Numbers of them are every year made into steers for working purposes; but the use of these, at proper age, even upon the meanest common cows, and a few consecutive crosses upon their progeny, will, in a few years, give the breeder a herd, for all practical uses, equal in beef and dairy value to the best, and which will return in their products, double the profit to be derived from the inferior animals. The season for breeding neat cattle will soon be here. Let every owner of stock take time by the forelock, and secure, at least, the use of the best animal that can be obtained within a day's travel, or more if need be. Two years' feed will be cheaply bought by a week's labor thus given at the first in improving the breed.

Pen Portrait of a Model Cow.

The following beautiful outline portrait of a well bred milch cow, occurs in a communication to the *American Agriculturist* by Lewis F. Allen, editor of the "American Herd-Book."

"She is marked with lines of comeliness, from the point of her nose to the root of her tail—sprightly in look, graceful in figure, and full in all her proportions. She has a coat of silky hair; no matter what its color, it is agreeable. She has a full, well placed udder, and clean, taper teats. She feeds well, and pours out a yield of rich milk, in profusion. Her temper is kind, and she is every way a grateful animal to keep and look upon. Even if an Alderney, her sharp points, and peculiar outline, are so relieved by her gazelle head, and fawn-like eye, showing unmistakable lines of aristocratic blood in her lineage, that she is at once taken into one's affections as a thing to be cherished and petted."

To heighten the description by way of contrast, the common animal is thus noticed. "Look at her rugged shape, coarse hide and hair, and excess of offal in horn, dewlap, and bone. She has no redeeming feature, save in the tolerable quantity of milk she occasionally yields. She

can not become a lovable object to any one possessed of taste or an eye for the beautiful."

Pleuro Pneumonia—A Petition.

But little has been heard of this fatal cattle disease lately, and it is hoped that the prompt action of the authorities of Massachusetts and adjoining States, has resulted in preventing its spread. The isolation of affected herds is proved to have been a wise precaution. The Boston Journal alluding to this subject says:

"The occupants of the 'hospital pasture' at North Brookfield, (Mass.) numbering from 10 to 15 head of cattle, the remnants of numerous herds which were nearly exterminated last Summer, were examined by the Commissioners about two weeks since, and the disease having been proved incurable, the cattle were all slaughtered. The opinion prevails among the Commissioners that the disease will not again make its appearance."

The Commissioners have also issued circulars to the different agricultural societies in the State, recommending them to petition Congress for the passage of a law to quarantine cattle arriving from foreign countries until it is ascertained that they are free from disease, which will be a wise precaution.

Value of Carrots—One Answer.

To the Editor of the American Agriculturist:

In the January *Agriculturist*, page 11, you ask, "How much are Carrots worth for feeding?" to be answered from experience.

For the past ten years I have annually raised one or two acres of this esculent, and my custom has been to dispose of what I could at a certain price, and what could not be sold thus, to feed to my stock. My price has been usually $12 per tun, and I have sold the greater portion of my crop at that rate.

For fattening purposes I consider this perhaps more than their intrinsic value; but for feeding milch cows, store cattle, or sheep, I doubt not they are well worth that amount as a substitute for hay, or indeed for any other winter fodder. Two feeds of a peck each, fed daily to a cow, with plenty of good bright straw, will keep her in good condition, and under some circumstances, probably it is cheaper than giving the cow all the hay she can consume.

For horses that do not labor more than one half the time, I think they are equal by measure to oats; i. e., a horse fed a peck of oats and a peck of carrots each, daily, will do as well as if fed two pecks of oats—their action being slightly diuretic and laxative, and just what the system seems to need in the winter, when they are wholly deprived of green fodder.

In our region, the raising of carrots is on the increase, and farmers are beginning to ascertain that a stock of cattle can be carried through winter with less expense, and a larger stock can be kept on the same land by a judicious growing and feeding of roots; and that instead of the two or three tons of hay required to winter a cow, one ton each of hay and roots will do it as well, or better. WM. J. PETTEE.

Fairfield Co., Conn., 1861.

REMARKS.—We are rather surprised at not receiving more answers to our question, though when we proposed the query, we suspected that notwithstanding all the exhortations, so to call them, which have been uttered for years past, urging people to cultivate carrots, there are really very vague notions on the subject. Mr. Pettee thinks they are worth $12 per tun, to feed. Let us try this: At 60 lbs. per bushel, and $12 per tun, a bushel is worth 36c., or a peck 9c. In this dear market we buy a bushel of very good "ship feed," or bran and shorts mixed, for 30 cents. A peck therefore costs 7½ cents. Now, will not a peck of this ship feed, wet and mixed with cut straw, or other forage, be better for a milch cow, than a peck of carrots? That is the practical question. In most parts of the country a very good mixture of bran and shorts can be bought for much less than 30 cents.

But on the other hand, can not carrots be raised profitably for 10 or 12 cents a bushel? Will they not pay better at this price, than corn at an average of 37½ cents per bushel? If so, how stands the profit of feeding? "The question is before the meeting for discussion."—ED.

Use the Pen.

Seldom do we receive letters affording more satisfaction than those occasionally sent by farmer subscribers, giving detailed accounts of their works and ways. The information so gained is valuable in itself, and besides, the acquaintance so formed with our subscribers is very pleasant. It is most encouraging to us to find that attempts to instruct and please our readers, are not altogether in vain.

We therefore take this opportunity to thank our friends for past favors, and to request them to send further articles. Send accounts of experiments, in raising and fattening stock, with various crops, with new seeds or implements. Let the facts be carefully ascertained and clearly stated. Tell about your garden, your orchard, your poultry-yard, etc., relating the failures as well as the successes. Some may doubt their talent for authorship. If any shrink from appearing in print over their own names, please send communications written in the plainest style, and we will make good use of them. Even if they are not inserted, as written, they will not be lost, but will suggest topics for examination and discussion, and so will minister to the actual wants of our readers. Throw all the grain into the *Agriculturist* hopper, and it will ere long come out in the shape of food for multitudes who look to this source for part of their mental nourishment.

Notes from Illinois.

We extract the following items of interest from a letter to the *American Agriculturist*, by H. Hinckley, Assumption, Christian Co., Ill.:

....The corn crop is very good, and from this little station, where four years ago was but one building besides the depot, there will be shipped this year five hundred thousand bushels of corn—perhaps more. It is now sold here by the farmers, delivered at the depot, at 20c. per bush. in the car. It is bought by the middle men, who have it shelled at 2¼ cts. per bushel, and put in gunny bags, which cost 15 cts. apiece here. The sacks are sewed, and shipped by Illinois Central Railroad, 180 sacks of 2¼ bushels to each car, to Cairo, and thence by boat to the South, where it now brings at wholesale on the Levee from 68 to 75 cts. It is sold to the consumer at a higher price, and frequently costs the inland planter by the time it reaches his plantation $1.50 bushel. The scarcity of this crop at the South the past year, has created a demand for it from the Western States, which most of them are very well prepared to supply.

The growing wheat crop looks well, and if no accident happen to prevent, will prove an enormous crop next year. I saw some Hessian fly last Fall, but not much injury. Not much old wheat remains to be sold, farmers here usually selling out immediately after harvest. Farmers are getting out of debt as fast as they can, and the severe lesson they have received, will be profited by, preventing new debts.

Experience with Potatoes—$80 per Acre for Manure.

The following statement of experiments in the cultivation of potatoes, made by George R. Underhill, Queens Co., N. Y., was communicated to the *American Agriculturist*, by the Secretary of the Glen Cove Farmers' Club, at the request of the President, Daniel K. Youngs Esq.

Planted 4⅔ acres of land with Mercer potatoes in furrows 2½ feet apart. Harvested 1270 bushels. Average yield per acre 260 bushels.

Crop sold for	$652.00
Cost of Manure	$392.00
Expense of Culture	110.00
Cost of Seed	25.00
Total Expenses	$527.00
Net Profit ($25.64 per acre)	$125.00

Three plots were set off, and the potatoes carefully measured, for the purpose of testing the comparative profit from the use of different kinds and quantities of manure; the results of the experiments were as follows:

Plot No. 1, containing one acre, was enriched with 100 loads New-York stable manure, and 350 lbs. guano, per acre. The manure was placed in the bottom of the furrows, the guano sowed on it, and the potatoes dropped on both, and covered with a plow. Yield 250 bushels.

On Plot No. 2, containing one acre, used 150 loads *old* New-York stable manure, and 350 lbs. guano per acre. Yield 308 bushels.

Plot No. 3 containing three quarters of an acre, on low damp ground, manured the same as No. 1—except four rows in which no guano was put—yielded at the rate per acre of 347 bushels.

The crops from rows in which guano was used, exceeded in value that in which there was none, at the rate per acre of $54.00
Cost per acre for Guano 10.00

Net gain by the addition of the Guano $44.00

With the exception of three or four rows on the lower side of the damp ground, in which the potatoes were nearly all decayed, there was not a bushel of rotten ones in the whole piece. The seed used, was about the size of hens' eggs, with the chit end taken off, and cut in two pieces.

[The effects of the guano would have been more certainly ascertained, had it been omitted from one entire plot, or from equal portions of each plot. By the above statement, Plot No. 3 which was only partially dressed with guano, yielded 90 bushels per acre more than Plot No. 1, where guano was used throughout. The dampness of the ground was probably favorable during last Summer's drouth. But for the fact that the rows in No. 3, without guano, yielded less than the remainder of the plot, it might have been concluded that the 90 bushels extra were due to the omission of the guano.

Perhaps the most noteworthy thing in the experiment, is the fact that the cost of the manure was over *eighty dollars per acre!* This is not an uncommon thing on many places around New-York, however it may startle those who place so little value upon manure that they scarcely take any pains to properly husband what is produced in their own yards. There is

no mistake about the profit of high manuring. The above is only one of ten thousand demonstrations.—ED.]

Truthful Hints by "Ik Marvel.'

The following specimens of shrewd observation by Donald G. Mitchell, alias, Ik Marvel, we find in that grave Quarterly, the New Englander. They are extracted from an article entitled "Hints about Farming," which contains many brilliant, pithy, as well as suggestive hints.

The shrewd, hard-working farmer who is really making money at his business, seldom says much about the profitableness of farming. "He loves to croak rather; he counts his business a hard one; he affects a tone of discouragement." ...."The hens that lay golden eggs never cackle; at least we never heard them." It is the retired citizen, the amateur farmer, who is so sanguine about profits. "He loves to tell you, in a confidential way, what his last year's sales of butter amounted to, and how many tuns of good English hay his reclaimed meadow will carry to the acre. He somehow seems to entertain the belief that every looker-on thinks he is spending a great deal of money, with very little return; and he is nervously anxious to talk down any such fallacy. Expenses are large, certainly; but a great many of them go to investment, he tells us. Digging rocks is heavy business, to be sure; but once out of the way, and the Michigan plow will not have its nose broken again. Trenching, too, is a thing of very saucy cost—particularly where the soil is underlaid with hard-pan or bolders; but then—what vegetables will come of it!" It is not to be denied that "For a man who is thoroughly in earnest, farming offers a grand field for effort; but the man who is only half in earnest, who thinks that costly barns, and imported stock, and smooth fences, and a nicely rolled lawn are the great objects of attainment, may accomplish pretty results, but they will be small ones. So the dilettante farmer, who has a smattering of science, whose head is filled with nostrums, who thinks his salts will do it all; who doses a crop now to feebleness, and now to an unnatural exuberance; who dawdles over his fermentations while the neighbor's oxen are breaking into his rye-field; who has no managing capacity, no breadth of vision, who sends two men to accomplish the work of one—let such a man give up all hope of making farming a *lucrative* pursuit."

For the American Agriculturist.

Stop the Rats.

Look at their destructive work in the crib, in the cellar, in the garret, and every where. There is a barrel of potatoes with a dozen of the top ones half eaten, and unsavory moisture coming up from the rest, that is not suggestive of cleanliness. They have disemboweled the squashes, making a clean sweep of every seed. Here are pecks of carrot chips, where the scoundrels have held their nightly revels. There, they have invaded the grain bins, and scattered the corn, oats, and wheat around promiscuously. Nothing is safe from their depredations. It is estimated that these pests cost the nation ten millions of dollars!

Think of that, readers of the *Agriculturist!* It only shows the carelessness of the producing class, that such an enormous tax upon their industry is submitted to. For a less sum, we made war upon Great Britain. Shall we not make war upon these enemies? They usually make their attack at the foundation of a building; by rendering this impervious to them, our possessions are saved. Cribs are made secure by placing their corners upon posts three-feet long, topped with large flat stones. Dwellings and root rooms in barns are made rat proof by cementing the bottoms and walls. Cement is now about as cheap as lime, and every farmer that can afford a house, can have the cellar cemented. CONNECTICUT.

[That's all very well, Mr. Connecticut, but what are you going to do when they insist upon staying in your hay lofts, and in the chambers of the house, in spite of your cemented walls, your traps, and even your cats. We can find no remedy short of poison, and every one who has tried this, knows what it is to have decaying rats in or around the house. There is no mistake that rats are a great bore, and an effectual, neat way of getting rid of the pests, is yet desired.—ED.]

For the American Agriculturist.

Familiar and Useful Notes about Common Birds....III.

THE BARN OWL (*Strix flammea.*)—THE FARMER'S FRIEND.

This bird may be regarded as the typical example of the Owl family. It exhibits in perfection, many peculiarities of their form and structure, such as the thick plumage, the large eye, with the discs surrounding it, and the feathered legs. It is distributed over a wide extent of country, throughout the sea-board districts. Its northern limit appears to be near the 44th parallel of latitude; thence it is found along the coast of both Oceans, as far south as Brazil. This species is not common in New-England, or the Western States, but south of Pennsylvania, is the most abundant of the family. There is an owl, widely distributed over the Eastern Continent, abundant in England, France, Germany, Russia, and the Scandinavian Peninsula, known by the same name, which some Naturalists have, with hesitation, treated as a different species, but in shape and habits it appears to be identical with our own. In color and size they do not differ more than other species upon different sides of the Atlantic, which are admitted to be identical—not so much, indeed, as the Barn Owl of Cuba does from that of California. For our purposes the European and American Barn Owl may be treated as varieties only of a single species, although slight *specific* differences probably do exist between them.

The total length of the female is about sixteen inches; the male, as is usually the case with predatory birds, is somewhat less. It is without ear tufts; its legs are long and feathered to the toes. Specimens from different parts of North America exhibit different shades of color, especially in the under parts. In the common type, these are a pale fawn or buff color, interspersed with small spots of black. The upper parts have a groundwork of tawny yellow, but nearly every feather has a small black spot near the end, succeeded by another spot which is white. The facial discs, or rings of feathers surrounding the eyes, are nearly white.

It is probable that the Barn Owl is the most efficient exterminator known, of the smaller animals, such as mice, moles, ground squirrels, etc., which are so annoying that they are classed under the common name of *vermin.*

It is nocturnal in its habits, being rarely seen before the evening twilight. During the day it is so imbecile as to permit itself to be insulted at will by the puniest aggressor, and if disturbed, it flies in an irregular, shambling manner, as if bewildered by the light. It is rarely found in the recesses of the woods, but seems rather to prefer the vicinity of human habitations and farm yards, or fields grown up to small brush, decayed hollow trees, and above all, deserted buildings. In such localities it is certain of an abundance of its favorite food. In some obscure nook, or recess, it remains from sunrise to sunset, in nearly an erect posture, with retracted neck, and closed eyelids, dozing away the hours in which, from the structure of its eyes, it is unable to approach its prey, awaiting the return of twilight. If approached in this state it does not fly off, but hisses like an angry cat, and clicks its bill at the intruder. If forced to leave its position it seeks the nearest place of shelter from its enemies. In the evening dusk, however, it assumes a far different appearance. It then starts from its recess for some field or farm-yard where the mice or smaller animals are plenty, and with noiseless, firm, and protracted flight, explores the ground with the regularity of a highly trained pointer, sailing along the fences, over the valleys, watching every movement of a grass blade, and catching with sensitive ear every sound that issues from behind it. All its feathers terminate in fine downy margins, exposing no rough surfaces to the air, so that its flight is as noiseless as a shadow. Its vision is so acute and its motions so active, that the animal of which it is in search, rarely escapes if once exposed to view.

It is able by a process of regurgitation, to eject from its stomach all the indigestible portions of its food, such as fur, bones and feathers. These are thrown out in the form of rounded pellets, which are always found in abundance near its nest, and give to its vicinity an odor pleasant enough, perhaps, to the owl, but far otherwise to the observer.

The quantity of food which it consumes is most extraordinary. Mr. Waterton, an eminent British ornithologist, whose opportunities for observing its habits in this respect were excellent, as he several times domesticated it, says, that when it has young, it will bring a mouse or similar animal to its nest as often as once in twelve minutes. But in order to have a proper idea of the quantity of mice it destroys, it is necessary to examine the pellets which it ejects from its stomach in the place of its retreat. Every pellet which Mr. Waterton examined, he found to contain from four to seven skeletons of mice. In one instance, where it nested in an old gateway, he caused the vicinity of the nest to be thoroughly cleansed, and upon an exami-

nation some months after, when the young were fully grown, he found the place to contain *above a bushel of these ejected pellets!*

It was formerly doubted whether this owl preyed upon fish or smaller birds, but the same author says that he was standing upon a bridge one evening, minuting the owl by his watch, as she brought mice to the nest, when on a sudden she dropped perpendicularly into the middle of the stream, and shortly after he saw the owl rise with a fish in her claws and take it to the nest.

In a recently published work, in our judgment of great popular excellence, entitled "Routledges Illustrated Natural History," the author, Rev. J. G. Wood, relates many interesting anecdotes of the Barn Owl. In speaking of one which had been domesticated by a friend, he says: "It was a confirmed murderer of bats and small birds, as well as mice, and was accustomed to push its prey into a hole in an old wall, that had been occasioned by the fall of a brick. In this odd larder were constantly found a strange variety of slaughtered game. Six or eight small birds were often counted when the hole was explored in early morning, and once the owl had poked fourteen bats into the aperture. On several occasions the bird had contrived to pack a moderately sized *eel* into its storehouse, having always killed the eel by a bite across the back of the neck. The owl was always attracted by bright and glittering objects, and once was seen to pounce upon a needle which lay glistening in the moonshine, and to carry it away to its usual receptacle.

Its real size is much less than it appears; for its body is, in fact, scarcely larger than that of the common pigeon. It is, notwithstanding its diminutive size, a bird of extraordinary savageness of disposition. When attacked, it has an ugly habit of falling on its back and dashing its powerful talons into any animal that attempts to interfere with it; and so fiercely does it strike, that instances have been known, where a dog has been blinded by a single stroke of its claws. While its young are helpless, it watches over their safety with unremitting diligence, and will dash at any animal that approaches it, irrespective of its size, and regardless of consequences to itself.

The nest is usually found in a hollow tree, and sometimes in the hole of the wall of a deserted building. The eggs are white, and generally four in number. It is said at times to be setting upon one brood of eggs while it is feeding the young of a previous hatching, but this needs confirmation. It ought to be remarked that Audubon was unable to discover any propensity in the American bird to fish, or capture small birds. We have no satisfactory authority for denying the former part of his statement, but instances are frequent where the feathers and skeletons of small birds have been found in the castings of this bird, along the coast of the Southern States.

Enough we trust has been stated to show that the Barn Owl, not only never injures the farmer or gardener, but, on the contrary, that it is very useful in the destruction of multitudes of the smaller quadrupeds, which live upon the fruits of the farmer's labors. If there is a meadow infested with moles or shrews, which are destroying the roots of the young grass or grains, or an out-house infested with mice or other vermin, and a pair of these feathered cats take up their abode in the neighborhood, instead, (as is too often the case) of effecting their destruction, the farmer ought to use as much care to protect them from vagrant boys and vagabond hunters, as is taken in the East for the protection of the stock, or in our Southern cities of the Black Vulture. CHITTENDEN.

Blinks from a Lantern....XXV.

VISITS A WOMAN OF HOMESPUN.

Since I announced my purpose to search for a farmer's wife, I have had my hands full. The mail has been pouring in letters from everything in crinoline that can write, until I have my tub half full of manuscripts of every size, and hue—pink, rose color, gilt edged, note size, and foolscap—in the main well covered with passable English, and abundantly furnished with I's. Nothing is in more striking contrast with my times, than these voluble letters from women. Then, women talked a good deal, and the sex had a well earned reputation for looseness of tongue. The fame of Xantippe—Mrs. Socrates in the modern style—has come down to these times, as a woman who could hold her own with her husband. But even she could not write. But in this last month, I have had a dozen letters a day, on an average, from all classes of farmer's wives, setting forth the details of their household management. I had no conception of the extent to which the cultivation of the female intellect had been carried in this country. The hand writing is not only good, but the thoughts are well arranged, and well expressed, showing that the writers understand what they are about.

In these letters, I find a great diversity of opinion as to what constitutes a farmer's wife, or what is the appropriate sphere of woman upon the farm. With many the idea prevails, that a woman married to a man who tills the farm, is necessarily a "farmer's wife," and they wonder that I should be so stupid as to go around with a lantern in search of an article that is to be found in every farmer's dwelling. If I were to be driven from my position by words, or letters, I should have been converted by the first batch of letters. But I am not yet able to see that the farmer who marries a woman, necessarily has a farmer's wife. There is something on this point well worthy of consideration, in a very old book, that I find very common in this age, though I never saw it while in the flesh. The woman was to be a "help meet," and as I understand it, the farmer, though he have a dozen women around, has no wife until he has found some one to *help* him along in his business. She must enter into his sympathies, love the sight and smell of green fields, the blossoming of grain and grasses, must hear music in the bleating of sheep, and the lowing of kine, and in all the voices of the farm-yard, from the opening of the Spring to the closing of Winter. She must be deep in the mysteries of curds and cream, yeast and pastry, needle-work and knitting. In short, she must not rely upon her tongue as the chief glory of her woman-hood. In the farm-house there is work for the hands.

I was revolving these thoughts in my mind, as I obeyed the summons of an old gentleman to come and see his wife's housekeeping. He had stated, in his letter, that he had made all his property by the prudent management of his wife, had brought up his children, and worked into a comfortable competence at the age of seventy years. I found the house, where he lived, a neat one-story dwelling, painted white, with a long 'L' at one end, in which were the well, woodhouse, hennery, carriage-house, and work-shop, each having a separate apartment, and communicating with each other upon the inside. Every thing was arranged for convenience in doing the housework, and I found both the old people still living in the age of homespun, though it has been gone in most parts of the land, full forty years. The farm was located a dozen miles from the nearest railroad depot, and it was the boast of them both, that they had never been inside of the cars, or upon a steamer. He said the old horse and carriage had never burst their boiler, or run off the track, and he rather guessed they were about as safe as any of the modern inventions for traveling. For his part, he never could see what folks wanted to be in such a hurry for. They were certain to get through life soon enough without going thirty miles an hour.

I found the fundamental principle in their idea of business prosperity was, to make every thing that can possibly be made upon the farm, and buy nothing that you can possibly do without. Both had acted strictly upon this principle. They began life with it, before science had come so wonderfully to the aid of labor, and manufacturers had so cheapened all the articles of domestic use. They were somewhat set in their notions, and their location, remote from the centers of social influence, had favored the development of their individuality. They never could see that a "*boughten*" thing was as good as a thing made at home. It might look a little better, in some cases, they admitted, but it had not the *wear* in it.

The old gentleman, though sensible on most other topics, could not be made to see the advantages of the division of labor, and of trade. He had made all the "*L*" part of his house himself, had done his own painting and glazing, had made his own carts and sleds, harrows and stone boats, yokes and cart ladders, and the shed where the tools were housed. He had been thinking of putting up a blacksmith shop, where he could do all his own tinkering, but he had now got to be almost too old.

I found the old lady in her loom, weaving "all wool" as she called it, for her winter wear. She took great pleasure in showing me her spinning wheel, where all the warp and woof of her fabric had been spun. She said she used to card all her rolls herself, but the last few years she had carried them to the carding machine—it saved so much labor. It had not occurred to her that she could save still more if she would only make kindling wood of her wheel, and loom, and buy the cloth she wanted. I hinted as much, but she said she had the time to weave, and she could not do much else to advantage. I suggested butter making, raising eggs for the market, and divers other things that were in the line of a farmer's wife. Well, she said, she made all the butter she could in the summer, but the cows would not give milk in the winter. I suggested warm stables instead of a stack-yard, and roots and meal with clover, instead of corn butts and red top. But this was new doctrine, and she looked incredulous. She said she had read a good deal in the papers about milk

and eggs in the winter, but she only got enough for family use.

In the milk-room the homespun theory was carried out to perfection. There were wooden milk pails and linen strainer, and milk trays of beech and poplar, as if no peddler with tin-pans and milk pails had ever invaded her dwelling. The cheese press was evidently of home manufacture, and I looked round half expecting to see wooden cheeses upon the shelf; but these manifestly were made with all the cream in. She had learned her dairying before wooden hams and nutmegs were invented, and cheese, with her, meant all that could be pressed solid out of new milk into a cheese hoop. "Martha Gregg's cheeses," she said, "were known in the market, and she never had one sent back in more than forty year."

The homespun idea ruled through the house. Her coffee was systematically pounded in a mortar, because she preferred it to a coffee mill. She had seen one of the things at her daughter Susan's, but she did not like the noise of it about the house. She believed in Johnny cakes baked upon the head of a flour barrel, and in rye biscuit fresh from the good old fashioned bake kettle, that would hold coals upon the top. She had never come to a stove yet, did not think they were healthy, though she supposed they saved a good deal of wood. Her husband raised his own wheat, and had done it ever since they had kept house. She thought the unbolted meal made the most wholesome bread that was ever set upon the table.

A very interesting relic of the olden times was this woman of homespun. We get a better idea of the progress of agriculture, and of society in the farming districts, from such a household, than it is possible to form in any other place. The adage of the age of homespun, "make every thing you can, and buy only what you must," was admirable in its time. But, with the advent of machinery, and the thousand new uses for human muscles, another law must rule upon the farm and in the house. "Make only what you can make best, and buy whatever you need," is now sound doctrine. Farming has become a science and a trade; and skill in buying and selling is one of the secrets of the farmer's thrift. His wife should not overlook it. What can she make best?

Pulverize the Manures.

Few farmers comprehend the importance of attending to this item in the preparation of their stock of fertilizers. They are often carried to the field in the Spring, in the coarsest form possible, the hay and straw not fermented at all, and the coarse clods carried in to the yard last Summer, not broken. They are spread in this state, and the large lumps are plowed under so that they are not immediately available for the sustenance of plants. Plants feed mainly at the extremities of the rootlets, through mouths too small be seen by the naked eye. The finer the manure is made, the more easily it is dissolved in water, and the sooner it passes into the circulation. This doubtless is one reason of the almost immediate visible effects of Peruvian guano. It has been passed through the digestive apparatus of birds, and reduced to a much finer powder than it could be by any mechanical means. So small a quantity as a hundred pounds, spread upon an acre of mowing in a wet May day, will improve its appearance in a very short time.

All observing farmers have noticed that the finest and most thoroughly worked compost, other things being equal, gives uniformly the best results. The minute division of the particles is favorable to the chemical combinations that take place in the soil. It becomes much sooner available, and the cultivator gets an earlier return for his investment in fertilizers.

Fortunately, at this season, we have a very powerful agent that we can put to this work of comminution without any expense. The frost, with a fair chance to work, is better than any clod-crusher or mill to powder a compost heap. One of the best means of economizing frost for this purpose, is to plow up the yard whenever there comes a thaw, or say twice a month. Every turning of the contents of the yard exposes new surfaces to the action of the frost. We have found it a very profitable employment to fork over the compost heaps in the barn cellar, and in the field, during the Winter. Where the heaps are large, this can be done quite rapidly, even in freezing weather; and the more it freezes and thaws, the finer it becomes. Heaps thus turned and thoroughly beaten up with a shovel, come out in the Spring, a fine homogeneous mass, good to spread and plow in, admirable for dropping in the hill, and first rate for top-dressing grass land.

Good Corn in Connecticut—The "Argument Acre."

James H. Linsley, Litchfield Co., Conn., adds an interesting P. S. to a letter renewing his subscription to the *American Agriculturist*—in substance as follows: "Although not a farmer, I feel interested enough in agriculture, to try to show cultivators how much better they might do; and I think I have succeeded. Last season I planted corn on a lot containing 2⅔ acres, which had been begging for a purchaser at $30 per acre. The *expenses* were as follows:

Digging Stone and making wall	$160
Manure	60
Cost of Tilling and Harvesting	50
Total	$270

RETURNS.

220 bushels shelled corn @ 75 c		$165
11 Cart loads fodder	50	215
Balance against the crop		$55

This *looks* like losing money; but the land would now sell quickly at $150 per acre and pay 10 per cent interest at that price. This changes the appearance of the account thus.

Increase in value of 2¾ acres of land	$315
Deduct Balance above	55
Profit, (about $98 per acre)	260

This seems, and is, a large show, and some in my neighborhood doubted the statement, until I exhibited the *pile* of corn, which satisfied them."

Such an argument tells in favor of improved culture, or "book farming" as it is often styled, more than volumes of essays. Let like facts be multiplied. Set aside a small plot and try high farming upon it. If judiciously treated, the returns will very likely give it the name of the "Argument Acre."

How Thistles are Disseminated—An Important Suggestion.

To the Editor of the American Agriculturist.

You would do the community a good service by cautioning them against introducing the Canada Thistle with their fruit trees. The straw and litter used by many nurserymen in packing trees, contains thistle seed, and unless it be burned as soon as the trees are unpacked, they are quite sure to find a lodging place, and perhaps cover the farm. A neighbor of mine received a lot of trees from a Northern New-York nursery last Fall, which were packed in straw full of Canada thistles, with much of the seed still in the burr. Had he not been acquainted with the pest, his premises would soon have been covered with it. There should be a law against using anything containing thistle seed, for packing trees. To show how difficult it is to exterminate a patch of thistles when once established, I will mention a spot in my neighborhood, which, though mowed every year, when in bloom, is rapidly spreading. GEO. BEAVER.

Perry Co., Pa.

[Cutting but once a year will never exterminate the Canada Thistle. There will be vitality enough left in the rhizoma, or underground stem, to propagate it. Cut it down once in three weeks, or as often as the stalks are high enough to be reached with the scythe, and in a few seasons, at most, it must succumb.—ED.]

For the American Agriculturist.

Composting Night Soil—Its Value.

MESSRS. EDITORS:

You remember that premium corn crop of mine last Fall—96¼ bushels to the acre, on a three-acre lot. If you don't, I do, and the splendid growth of the stalks, and the remarks of the neighbors upon that piece of corn, as it pushed right on through the drouth, as if it had a rain every night, and as much food in the soil as it could dispose of. The thing that carried the day with that corn, was *night soil* in the hill, and I prepared it for use thus:

The farm is only a mile from the village, where I market my wood, milk, butter, and all other farm products. The night soil could be had for the carting—indeed, most people would even pay something to have their privies cleaned out now and then—and I had a box rigged for the purpose, holding about one-third of a cord, and fitted into a horse cart. The box has a trap door on top for receiving, and another behind for discharging the contents. These doors are made to shut water tight, so that the box can be carried without any leakage. Hard coal ashes also can be had in the village for the cartage. I have often tried them in the garden, and upon the meadow, and think they will pay for carting a mile, to spread upon any moist land. They are one of the best absorbents I have ever tried. I procured a large heap of them last winter, and had them stored under a shed. When the night soil was brought, I made a layer of the dry ashes, about a foot thick, elevating the edges so that the water could not run off, and dumped several loads into it. The quantity of water these ashes will absorb, is astonishing. No accurate measurement was made of the relative quantities of each, but it was not far from two parts of ashes to one of night soil. The whole mass was shoveled over twice, mixing the parts intimately, and left in a pile until the corn was planted, the last week in May. The mixed soil lost its strong smell, becoming nearly inodorous after the first working over, and, at the time of dropping, was about as dry as coal ashes, and handled with as little inconvenience. A handful of this mixture was dropped in the hill, and the result was, the best crop of corn I ever raised.

To be sure the ground had other manure. I believe in using that article, and all the money I have made in farming, I have made in that way. I had about ten cords of good compost plowed in to the acre, and seldom take a crop from the land where I do not use as much. The night soil did the rest, and I think at least thirty bushels of the grain to the acre was made by

this application in the hill. I doubt if any of the concentrated manures, at equal cost, would have done so well. Cultivators living near cities and villages, have their cheapest source of fertilizers, off of the farm, in this article. With suitable apparatus for carting, it is readily handled, and the great objection to its use is avoided. If the dry ashes are not conveniently obtained, dry muck, if worked over and made fine, is quite as good an absorbent, and has in itself more elements of fertility than the ashes. In the absence of muck, any dry earth, saw dust, or spent tan can be used, though they are not so good as muck. The *poudrette, tafeu*, etc., sold to cultivators, are mainly dried mixtures of black muck with night soil gathered in the city.

We see, from the experiment, that it is not necessary to wait a year, or more, for the noxious effluvia to be dissipated, before applying night soil to crops. Prepared in this way, it is inoffensive as any fertilizer, and does not burn the seed, or make it rot. It acts at once upon the germinating seed, gives it a fine vigorous start, and pushes it along rapidly, until it is out of the way of the worms, and reaches the main body of manure plowed in. It is readily prepared at this season of the year, when other work is not pressing, and no better use can be made of the time. CONNECTICUT.

Experiment in Grass Culture.

An old agriculturist gives in the "Mark Lane Express," (England), the following accidental experiment in grass culture. In laying down land to permanent grass, he found the first year's growth invariably the best; and that afterward the coarser grasses choked out the finer sorts. Many years ago his hired man mistook orders, and accidentally plowed nearly half an acre in the wrong field. This was in the Fall, and the land remained with the roots of the grasses thoroughly exposed to the atmosphere throughout the Winter. In the Spring it was carefully turned back and rolled. By this means the quality and quantity of the grass were so greatly improved, that the exact line, where the plow had gone, might be easily seen for years afterward.

Deep Plowing—Testimony of the Corn Crib.

In the July *Agriculturist*, last year, page 206, was published a statement from a Texas subscriber, to the effect that corn planted by him on ground plowed 15 to 20 inches deep, was looking badly, while that on land merely scratched over, appeared thrifty, and an opinion was asked as to whether the surface work were not better for that section. We replied, that though the plow might have been put in too deep at one time, yet, should a drouth occur, the benefit of thorough working would be seen; and requested to hear the testimony of the corn crib in the Fall. We have just received a letter from the same gentleman, stating that he is a thorough convert to deep plowing. A severe drouth came on, shriveling and destroying his corn and that of his neighbors, on land which had only shallow culture, while that on the deeply plowed field stood up bravely, came to maturity, and gave a fine yield. It is well here to repeat the caution that the soil should generally be deepened *gradually*, say an inch or so at each plowing, particularly where the subsoil is unfit for growing plants; in time it will be ameliorated by the atmosphere.

Ohio Crops in 1859-60.

According to the late Census Returns from Ohio, as published in the State Journal, the yield of the agricultural staples was less than was expected from the reputation for fertility enjoyed by that State. The farmers or the figures must be at fault. Judging from what has passed under our own observation, the value of such statistics has been greatly impaired by the carelessness of some of the marshals. But here are the statements.

	Acres.	*Bushels.*	*Average.*
Wheat	1,790,677	13,345,844	7½
Corn	2,339,204	60,372,343	30
Rye	98,011	662,065	5¾
Barley	102,792	1,639,388	16
Oats	644,954	15,055,059	23⅓
Buckwheat	149,645	2,222,083	15
Meadow	1,340,566	tons 1,365,888	ton 1

The largest average of Wheat was 17 bushels per acre, in Ottawa Co.—Erie, Sandusky, and Lucas gave 16 bushels each, while Trumbull yielded but ½ bushel per acre, and Mahoning ½ bushel. [There must be some mistake here.—ED.]

The Corn crop averaged 42 bushels per acre in Lucas Co.; 38 in Preble; and 37 in Lake, Butler, Ross, Pickaway, and Warren. The smallest average was 15⅔ bushels, in Carroll Co.

Poisonous Mushrooms.

At a recent coroner's inquest at Ipswich, England, the jury gave verdict: "Death caused by eating poisonous Mushrooms;" and recommended that great caution be exercised by persons eating this article. Dr. A. S. Taylor, in his work on Medical Jurisprudence says "there does not appear to be any satisfactory rules for distinguishing the wholesome mushrooms from those which are poisonous, and in some persons even edible mushrooms will produce disorder of the stomach and bowels. The English Gardener's Chronicle alluding to the above case, remarks that not only is it difficult to distinguish the wholesome from the poisonous mushrooms, but that there are other families of plants, a portion of which may be eaten with impunity, while others are injurious, as for instance the Brazilian Cherry (*Physalis Peruviana*), and the Deadly Nightshade, both of which belong to the solinacea or potato family.

The discrimination of wholesome from unwholesome productions of this class is a matter of experience, and no one is safe in the use of any vegetable substance whatever without such a degree of information as shall preclude all reasonable chance of error.—*Am. Agriculturist.*

Grape-Growing on Kelley's Island.

The Ohio Cultivator contains an account of the grape culture among the inhabitants of Kelley's Island, in Lake Erie, near Sandusky. It appears that the number of acres planted previous to 1859 was 62; in 1859, 69¼ acres; and 99¼ acres in 1860, making in all 230½ acres.

The largest amount owned by any one man is that of Addison Kelley, 23½ acres. Mr. Carpenter has 11¼ acres, nearly all in bearing. He is devoting much attention to the manufacture of wine, and is experimenting with the new varieties of grapes as the Delaware, Diana, Concord, etc., some of which he believes will supersede the Catawba and Isabella, both for wine and table use.

The first cultivated grape vines planted on the Island 17 years ago, are still vigorous, and for fifteen years have not failed of a crop of fruit. The value of the grape crop in favorable seasons is found to average about $600 per acre. The cost of fitting and preparing the ground, including under-draining, deep-plowing, planting, cultivating for three years, and trellising, is set down at $300 per acre. The vines are planted in rows six by eight feet apart and trained to trellises made of strong wire stretched upon cedar posts. More wood and leaf is allowed to the vines than is commonly done around Cincinnati.

For the American Agriculturist.

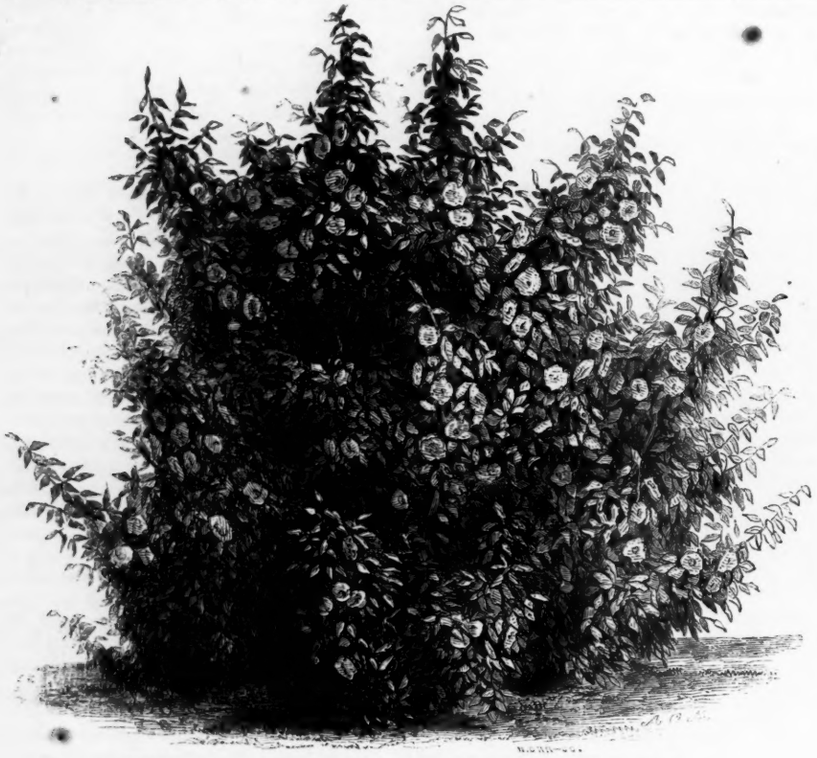
Green-Houses for Invalids.

Many years ago, an article appeared in the Horticulturist, written by Dr. Stevens, of N. Y., on the benefits of Green-Houses to pulmonary invalids. He claimed that the air of these glass structures tended to abate one's cough, rendered expectoration loose and easy, softened the skin, and induced a comfortable state of feeling, approaching to exhilaration. He even grew eloquent over his theme. During the sunny hours of a Winter's day, the good doctor could imagine himself in Cuba, the air was so warm and genial, and so full of the aroma of flowers. He recommended such places to pulmonary invalids as preferable, under most circumstances, to the expensive plan of removal to the South, involving, as that does, much discomfort, interruption of business, hazardous exposure, and entire separation from friends.

Now, this is all very pleasant to read and think about, and if it were true, would furnish a new recommendation of the higher forms of horticultural employments. But the trouble is, it is not true. The atmosphere of a well-appointed green-house is loaded with moisture, caused by evaporation from the foliage, and by the frequent sprinkling and syringing of the plants, the stagings, and floors. Of course, an air so charged with vapor, and with more or less effluvia from decaying vegetation, and with aroma from flowers, is not wholesome for a consumptive patient. And if, as is sometimes the case, the temperature is raised to a high point, the system becomes relaxed by it, the body is penetrated at every pore by the excessive moisture, and a severe cold is sure to be contracted.

The writer speaks from the experience and observation of several years. Green-houses are very attractive places to the lovers of flowers, and may be safely visited by invalids for a short period at a time; but as for their being desirable places of prolonged resort for the sake of the salubrity of their atmosphere—a substitute for the climate of Florida or Cuba—it is a grand mistake to suppose it. No: the pure, bracing air out-of-doors is vastly better. Guard against cold-catching by being warmly clad and shod. Then sally forth in all weathers. Mount your horse: the saddle is better for pulmonary folks than a rocking-chair. The air of the hills is better medicine than the confined, artificial air of a green-house. EXPERIENCE.

YIELD OF BERRIES PER ACRE.—A writer in the Ohio Cultivator says that two thousand quarts per acre is not an uncommon yield for the first crop of the American Black Cap Raspberry, and that an average yield of three thousand quarts per acre can be obtained by a careful selection of plants and good culture. This, however, does not equal the strawberry crop of a farmer in North Eastern Ohio, whose average product this season from about thirty varieties was at the rate of 2,240 quarts per acre, whilst Monroe Scarlet, Moyamensing Pine, and Wilson's Albany, gave 5,000 quarts per acre.



STUARTIA PENTAGYNIA, AS GROWING AT FLUSHING, N. Y.
(Drawn and Engraved for the American Agriculturist.)

With all the rage for foreign novelties prevailing around us, the natives of our own soil are too frequently forgotten, although held in high esteem abroad. Many of these would be "real acquisitions" here, were they imported at great cost from Japan or China. For many years a charming evergreen shrub from America has given a summer freshness to the winter landscape of England, and its parks and gardens in Summer are brilliant with the flowers of the Rhododendron. No exhibition of one family of plants has power to bring out the aristocracy of England, like the June exhibitions of these shrubs in Regent Park. The Kalmia in its varieties, is second only to the Rhododendron in the appreciation of Englishmen, while our Andromedas, Azaleas, and other flowering plants occupy a high place in their regard.

Among other plants valued in Europe, yet scarcely known here, is the Stuartia *pentagynia* (shown at Fig. 1), a shrub of great beauty, found in the mountains of Tennessee and Virginia. Its great scarcity has kept it out of the general knowledge, and it is only within a few years, that it could be found in the nurseries in any quantity. Many have often looked with admiration on the fine specimen, standing in the nursery of Parsons & Co., Flushing, from which our drawing is taken. Its branches commence about a foot from the ground, and form a round compact tree, or shrub, ten feet in hight, and about ten feet in diameter.

In August, when but few plants comparatively, are in bloom, this bush or tree is uniformly loaded with large white flowers, 2½ inches or more in diameter, saucer-shaped, with purple centre, and the edges of the petals crimped. A drawing of the blossom, reduced in size, is shown at Fig. 2. It has a general resemblance to the flower of the Magnolia, beside which, we know of no hardy tree or shrub, whose flowers can compare with it in beauty.

When once known, it will be considered as indispensable as the Magnolia in every garden, where a *few* good things are only wanted. It will grow in any good soil, is perfectly hardy, and is suitable for any locality. It will probably reach a hight of fifteen feet. It is readily propagated by layers and offsets, and will doubtless soon be found in all extensive nurseries. Ranking in size between the trees and dwarfed shrubs, the appropriate place of the Stuartia in the landscape will be somewhat near the dwelling, or among the main avenues and walks of the lawn. Its well proportioned head, fine foliage, and beautiful bloom, should secure it a prominent position. There is another variety, the Stuartia *Virginica*, which does not bloom as freely as this, and is somewhat tender.

Fig. 2.—FLOWER OF THE STUARTIA, REDUCED IN SIZE.

Experience with the Tritoma Uvaria.

As this plant, which was referred to in our last Volume, (page 177, June No.), has hitherto been somewhat of a stranger in this country, we have not been able to speak of it from much experience. The following notes give the result of one season's observation.

Our specimens were bought from the nursery in May, and set in the open ground, the first of June. After a little coaxing, they began to grow, becoming more and more luxuriant as they felt more of the mid-summer's heat. In August, one variety began to show a blossom-bud—a conical, green protuberance, the size of a man's thumb. The flower-stalk elongated, week by week, until by the first of September, it had risen two feet or more high. Then the huge bud became resolved into a cluster of buds. Each individual flower resembled the common scarlet trumpet honeysuckle, or some of the Penstemons. The color was a rich orange scarlet. There were perhaps fifty or more of these, compactly clustered around the upper end of the long and upright stalk.

The lowest tier of buds opened first, then those above, and so on, until all passed away,—the whole time of the blooming of a single stalk being about a fortnight. The general testimony of all who saw these plants was, that if the flowers are not strictly beautiful, in the sense a rose is, they are certainly very peculiar, and brilliant. Before the first blooming-stalk had faded, a second began to shoot up, which matured its flowers the latter part of September, and continued to bloom uninjured by the frosts, into the month of October. Late in October, as one of our plants showed another flower-stalk, we took it up and potted it, with very little care, and set it by the chamber window of a carriage-house, to see what it would do. To our surprise, it did not flag at all, but kept on growing, leaf and flower-stalk. Let it be noted here particularly—as showing the toughness of the plant—that in replanting it, we shook off the soil from the roots, broke off several offsets from them, and potted the same, and then crowded the mother plant into a four-quart pot, with no tender handling. And yet it took no affront at our rough treatment. A week or so afterward, seeing that it was bent on blooming, we took it into the house, where the buds opened finely, and adorned a parlor window with a flaming

plume for several weeks. Not wishing to tax it any longer, we then removed it into the cellar for a winter's rest, where it now remains.

Before the Tritoma had been tried, it was feared that it would not bloom at the North until just at the coming on of frost, and then would be cut down. But experience shows that some varieties of it flower early in September, and thence on through October, *not in the least injured by frequent and hard freezings!* And, if this is not enough, it may be potted and made to flower in the window for another month or two. We confess that we think highly of this plant, and would recommend it to all who do not possess it. Whether it will prove hardy enough to endure exposure in our northern winters, is yet to be ascertained. A friend of ours is trying the experiment this year, and we shall watch it and report progress.

Ripening the Isabella Grape.

A subscriber, J. P., has a row of Isabellas on the south side of his barn, which "ripen only once in two or three years, and then the ripeness is more in name than in flavor." He wishes to know how to provide a glass covering for them, to expedite their maturity.

Reply:—Build a rough frame of scantling, say ten feet high, leaving a space of two feet in front of the vines, for good ventilation, and a roof sloping at almost any angle, up against the side of the barn. Divide this frame into convenient sections for receiving the sashes, which may be fastened in place by screws. A portion of each sash, or every other sash, may be hung on hinges, to be opened at mid-day, and closed at night. If these frames are handled with care, and removed to some dry loft during the Winter, they will last many years.

But we should hardly think our friend, living in southern N. Y., or northern Penn., would need such frames at all. And, after reading his whole letter carefully, we advise him to try some other remedies first. He says his vines "have not yet been fruitful enough to pay for the trouble of fall-pruning and laying down." If by this, is meant that they *have not* been pruned or laid down, the fault may lie there. Or, the work may have been imperfectly done. We do not see how he could go amiss, if he has read our instructions respecting it. Prune back to two buds (in the spur-method,) lay down the canes carefully, and cover them with litter or soil just enough to conceal them: no more.

His vines "have had no Summer pruning." Of course, they should have received it, and especially as the border has been made so rich with "stable manure, poudrette, and ground bones," thus forcing the vines into an excess of wood-making, and decreasing the yield of fruit.

He says again; "The barn having no eaves-troughs, may have kept the ground too damp; and in addition to this, there may have been too much extra vegetation allowed upon the border, such as lettuce, cabbages, blackberry-vines," etc. all of which would abstract a portion of the nourishment, thus robbing the vine.

Then don't order any glass frames, yet awhile; but first, order a good eaves-trough for the barn, and perhaps a drain for the garden. Least of all, can grape vines stand with wet feet. The lettuce may do no great harm on the border, but the blackberry vines and things of that sort should be rooted up at once. If he heeds our suggestions, we shall be glad to hear from him as to the result.

Which are the Best Apples?

AN IMPORTANT REQUEST.

We have a proposition to make, which, if generally responded to by individuals, and by agricultural and horticultural, or pomological societies, will, we think, result in a positive good to the country, as well as to our individual readers. It is well known that there is a great diversity of opinion as to what varieties of apples are best adapted to general cultivation. This diversity results in part from the fact that a variety which succeeds well in one part of the country, does poorly in many other places. We propose that one or more apple growers in every locality where the *Agriculturist* circulates (and that will include nearly every county in the United States, and Territories, and in the British Provinces) should consult with his neighbors, and decide the following questions and send us the result of their deliberations:

A. What *three* varieties of early or Summer apples do you consider the best in your locality?

B. What *four* varieties of Autumn apples do you consider the best in your locality?

C. What *five* varieties of Winter apples do you consider the best in your locality?

In deciding these questions, the general value of the apples for home use and for market, should be taken into account; also the vigor, hardiness, and rapid growth of the tree, the length of time it has been tried, etc. Let the reports, so far as possible, be free from individual caprice, taste, or personal interest. The united voice or majority report of county or town societies would be desirable, but where no such society exists let us have the reports from individuals. We propose to make up a table occupying a page or two of the *Agriculturist* in small type, which shall show, at a glance, what apples are held in the highest estimation in various parts of the country. We would like reports from remote points—from Maine to the furthest Western Territories (including the Pacific Coast) where the apple has been cultivated long enough to render an opinion practicable. It will be readily seen that such a table will be of great value to those who are inquiring 'what trees shall I plant'? If we can get in reports enough to make a beginning, we will publish partial tables, at first, in the March, or at latest in the April *Agriculturist*, to aid in the Spring selection of trees. In all cases, please adhere to the following order, putting on separate slips the report for each season, so that we can classify them. So far as possible, give the leading name of the apple as adopted in Downing's, or other standard fruit books. Put the best apple in each class against 1—the second best against 2, and the third best against 3, etc., and name the best sweet variety.

A. SUMMER APPLES.

Name of Reporter,	County,	State.	Names of Apples.
.....	.....	..	1 ..... 2 ..... 3 ..... *Sweet*.....

B. AUTUMN APPLES.

Name of Reporter,	County,	State.	Names of Apples.
.....	.....	....	1 ..... 2 ..... 3 ..... 4 ..... *Sweet*.....

C. WINTER APPLES.

Name of Reporter,	County,	State.	Names of Apples.
.....	.....	....	1 ..... 2 ..... 3 ..... 4 ..... 5 ..... *Sweet*.....

YOUNG ORCHARDS need an occasional visit at this season. Any trees swayed down by the winds, should be straightened up, and tied to stakes with wisps of straw. Notice if the mice have attacked the bark around the trunks. If so, raise a mound of earth a foot high around each one; it will also protect against excessive frost. Level these mounds in the Spring.

Notes on the Newer Grapes.

To the Editor of the American Agriculturist.

In answer to your inquiry on page 309 in Oct. No., of Vol. XIX, in reference to grapes, I give my experience in this region.

Delaware will not ripen four weeks earlier than Isabella, nor more than two, sometimes perhaps three. *Anna* does not ripen with me at all, although I have had it in bearing three years. *Logan* is not quite equal to Isabella, but is ten days earlier, a hardier vine, and a good grower. *Taylor, or Taylor's Bullet*, is perfectly hardy, and free from disease. I deem it equal to Delaware in quality, while it will outgrow it, two to one. *To Kalon* is a splendid and excellent grape, but it rots with me too much to warrant extensive planting. *Wilmington* is a good white grape, but it seems almost an impossibility to grow it from eyes or cuttings. I have one vine of it, which has a real native foliage. I have seen and tasted some 30 varieties of *Rogers' Hybrids*, and I think the size and excellent quality of some of them will place them among the best in the country. Another grape, the Alvey, will prove one of the best. But such has been the deception practised of late years in this branch of business, that we must show the fruit several years before the public will trust it. I have spent hundreds of dollars on trash, and now can go to work and graft the vines over. This hunting up every new grape that I could hear of, had became a *mania* with me, but the fever has left me entirely.

In conclusion I would state that in *my* opinion there are two grapes now under cultivation quite equal to the Delaware, and one superior. The former two are the Raabe and Taylor, the latter, the Alvey. S. M.

Calmdale, Pa.

Harvard Grape.

A friend living in Brooklyn, N. Y., some time since sent us a small box of white grapes under the above name. The vines have been sold about here, with the following description: "Originated in Connecticut; is perfectly hardy; bunches of medium size, compact, often shouldered; berry medium to large, very sweet, not musky, very aromatic, color light green, reddish where exposed to sun: ripens last of August."

A truthful description of the bunches sent here, is as follows: "Clusters small; berry medium to small, of a light green color, *very foxy*, with a close pulp, skin thick and tough; the whole no better than one half the wild grapes of Connecticut, of which it is doubtless a variety; or it may be the 'Massachusetts White Grape.' It is unworthy of culture."

VEGETABLE CURIOSITIES. A. Benton, Richland Co., O., writes to the *American Agriculturist*, that a vine sprung from a self-sown summer squash seed, grew flat instead of round, spreading out nearly a *foot wide* in the thickest part. On this the squashes grew in clusters as thick as they could stand. There was also a curious freak among the cabbage stumps set out for seed. Five or six of them produced from two to four heads each, instead of seed.

Try Mulching.

By *mulching*, the inexperienced reader will understand that we mean the placing of leaves, straw, refuse hay, grass, or other material, upon the surface of the soil, around the base of fruit trees, and various other plants. We hope every reader of the *Agriculturist* will look into the benefits of this process. It is possible, doubtless, to over-rate the importance of the practice, but there is little danger of it. To our view, it is one of the most useful processes in orchard and garden culture. Of course, it is not to be employed without regard to time and season. Its value appears chiefly in times of drouth, preserving a healthful moisture of the surface of the soil. It also saves hoe-labor in keeping down weeds and scarifying the earth about trees and plants.

If a fruit-garden is not carefully tilled in midsummer, the ground becomes hard and dry, and an army of weeds invade it, which by the evaporation from their leaves pump the soil still drier than it would be if bare of vegetation. But cover the ground between and around the trees with a few inches thick of forest-leaves, or straw, or tan-bark, and the soil will continue moist, and few weeds will appear. The trees, too, will make a better growth.

Yet mulching should be applied with some care and discrimination. For instance; it should seldom be used in early Summer, except in the case of newly planted trees. From April to June, it would be better to keep the soil clean and loose with the cultivator and hoe; for, if covered earlier, it would keep out the genial heat of the sun, and so retard the growth of both leaves and roots. Wait until the ground gets well warmed and vivified, until the manures have been well worked into the soil by the hoe, and until the ordinary rains and dews of early Summer seem insufficient to keep the ground properly moist: then put on the blanket of leaves, or straw, or refuse hay, or cut weeds. So treated, it will matter little whether it rains or not, for several weeks at a time, for the mulch will arrest the moisture always rising from the subsoil, and prevent its evaporation. The hoe, too, may cease its fight of the weeds for a long time.

Again; the mulch should, in most cases, be removed before the close of the season. If kept on late into Autumn, it will serve to keep the ground about the roots of the trees warm and moist, and so excite continued growth at a time when it should have ceased, and the forces of the tree be spent in ripening off its wood preparatory to Winter. The neglect of this precaution may account, in part, for the winter-killing of many fine dwarf and other pear trees. There is another reason, too, for this; if the mulch of hay or straw be left around young trees in Winter, it will be quite sure to afford a nesting-place for mice. Let it then be removed, say about the middle of September or first of October. Early in November, supply its place with a hillock of common soil around the trunk, to repel vermin.

As already intimated, mulching is very important in the case of newly planted trees, shrubs, and vines. The mangled roots very soon send off all the moisture they possess, or can gather from the surrounding soil, and it is very important to supply their lack artificially, until they get re-established, and in a condition to gather water for themselves. This can be done, either by watering the roots frequently, or by mulching them. The first method every experienced planter knows is open to many objections: it is an unnatural remedy, it usually packs the ground too much, it is laborious, and is not always successful. The latter has everything to recommend it: it is nature's plan for protecting roots, it is easily and quickly done, and is generally successful. Water may perhaps be wisely applied once, at the time of replanting, but it will seldom be needed again. Among deciduous trees, there is none that demands this treatment more than the cherry. From neglect of it, many fine collections perish every year.

And if deciduous trees require mulching, much more do evergreens. Their foliage always fully expanded, serves to evaporate the moisture of the roots very fast. At the time of re-setting, they should be plentifully watered, and then the soil over the roots should be covered with leaves and flat stones to keep them down, or with spent tan-bark. With this little care, even the fastidious Hemlock will accommodate itself to new soils and exposures. For shading the ground about newly planted shrubs, grape-vines, strawberries, cuttings and the like, nothing is better than chopped straw, or (which looks better) newly mown grass. If water is applied soon from a watering pot, it will make the mulch lie flat upon the ground, and it will remain there all Summer.

Highland Cranberries.

It is claimed by many, that the common bog-cranberry can be grown on upland, provided the soil is somewhat moist, is dressed with a coating of sand, and afterwards properly tilled, etc., etc. In a late meeting of a Farmers' Club, which the writer attended, a gentleman who had just visited New-Hampshire, remarked that his friends in that State showed him cranberries which they had gathered in a wild state from the sides of their hills and mountains. This remark was received with looks of incredulity on the part of several present.

In a recent Maine Farmer, we see it stated on the highest authority that there is a variety of the cranberry known as the mountain-berry, which grows wild on the waste mountain lands of Washington county. It is known to botanists as *Vaccinium Vitis Idæa*, and to the common people as "mountain cranberry," "rock-cranberry," "cowberry," etc. It grows abundantly on the sides of the White Hills, and on the summits of other mountains in Maine, and portions of Massachusetts. In the eastern parts of Maine, they are common, and are gathered by the Passamaquoddy Indians and other *white* Indians, and brought into market. They are smaller than the lowland cranberry, but of a pleasant, acid flavor, and by some preferred to the others. If this be so, would it not be well to introduce this highland cranberry into other parts of the country? It would doubtless succeed where the lowland variety is raised with much difficulty.

The Privet not Hardy.

There seems to be a difference of opinion in regard to the hardiness of this shrub. It often grows 5 or 6 feet high without injury, and then dies out in patches. In the City of Buffalo, N. Y., we have seen extensive hedges of it, which were, for many years, the pride of their owner, but at length were so badly bitten by the frosts of several Winters that they had to be rooted out and thrown away. We have seen some handsome specimens of topiary-work, or shrubs cut with the shears into fantastic forms, in privet, near Utica, which after a fine display for a few years, were cut to the ground in a single Winter. And again, in other parts of this State, we have seen hedges and screens of privet remaining perfect walls of verdure for a dozen years.

On the whole, we think the privet is *not* perfectly hardy at the north. And it should not be planted in such conspicuous places that when badly "cut up," it will be an eye-sore. For an undergrowth in a grove, it is very suitable, as it retains its leaves there nearly all Winter, and is seldom injured by frost. For screens in out-of-the-way places, to hide coarse fences, it does very well. For a very low hedge around a burial lot in a cemetery, it is very pretty: if kept quite low, it will seldom be winter killed.

It is a native of Europe, but has become domesticated in some parts of this country. In France and England, it is much used for hedges, and, like almost every fine plant in England, it has received poetic honors:—

> "The Privet, too,
> Whose white flowers rival the first drifts of snow
> On Grampia's piny hills."

Shelter for a Fruit Garden.

A subscriber (J. P. of Oswego,) wishes to plant a fruit-garden, where it needs shelter on the north and west sides; and asks advice about the material for a hedge or screen, and the manner of planting it.

Reply:—If your garden were not to be so large as you propose, we should say, use buckthorn for the hedge, allowing it to grow eight or ten feet high. This plant can be had cheap, it grows in almost any soil and exposure, and is not subject to the attacks of the borer. But, as you wish "shelter for standard pears and peaches one hundred and thirty feet off," probably you had better try something else. If large specimens of the American Arbor Vitæ—say five or six feet high—can be had from the woods near you, we should say, make a trial of them. They will transplant easily, and when established, will grow a foot every year. They can be sheared and kept within as small space as any hedge. The roots will not extend a long distance, to rob fruit-trees of their needful food.

If the Arbor Vitæ can not be easily obtained, then try the Norway Spruce. This may be a little more expensive at the outset, but it will surely succeed and be every way satisfactory. Get plants about four feet high, set the stems at least six feet apart in the row, and they will soon spread laterally so as to fill up the spaces between, and they will rise high enough to break the winds from your most distant fruit-trees. All this, however, goes on the supposition that you first prepare a wide, deep and rich border for them to grow in. After they have become well rooted and in vigorous growth, they should be pruned a little in mid-summer. This tree is much used in Norway for hedges and screens, and when well managed, makes a lofty green wall, and a barrier stout enough to turn cattle. You could, undoubtedly, set fruit-trees within ten or twelve feet of this hedge, without material injury from its roots.

NEW UPRIGHT TOMATO.—The Gardener's Chronicle (Eng.) speaks of a new upright tomato, which requires no support. Its stem is two feet high, or more, and so remarkably strong and stiff, that they are strictly self-supporting—a highly commendable quality. It branches less than the common great red tomato, is less leafy, and does not want so much pinching. It does not bear so freely, as the common tomato,

but its fruit is larger, and more regularly formed. In earliness it is intermediate between the early red and the great red. It is called the *Tomato de Layr*. The seeds are offered by Messrs. Vilmorin, of Paris.

Blight on the Evergreens.

It is a fact, which can no longer be denied, that some of our finest conifers are becoming the prey of insects. The first appearance of this enemy, we believe, was among the Scotch larches, and is supposed by some to have been introduced from Scotland. In some cases, the insect is the red spider; in others it is a green worm about the size of a knitting needle; in others, it is a microscopic insect which seems to live on the bark and the leaves, causing the latter to roll up, and in many cases to drop off. In our own experience, thus far, the "green worm" is confined to the Norway Spruce. For two years past, fine terminal shoots on the trees would be seen, here and there, to droop, when on cutting them off, this worm would be found boring his way up and down the central portions of the shoot. The White pine, the Balsam fir, the Scotch larch, Norway Spruce, and Arbor Vitæ are the only trees we have known to be affected by any kind of insect.

As to remedies, who will provide any? If one had only a single tree, he might keep it clean by frequent doses of whale-oil soap and water, or by dusting it often with air slacked lime, or ashes. If the famous "Gishurst's Compound" were not so costly, it might be used: it would probably be efficacious.

But when one has large groves, or long nursery rows of evergreens, what can he do? We can only say, syringe, or dust with lime as many as possible, keep them well tilled at the root, hand pick, and—trust in Providence. Perhaps this blight is only a temporary visitation.

Large Fruit from Oregon.

Nelson C. Warner, returning from Oregon, exhibited at the office of the *American Agriculturist* some of the fruits of that land, which prove the truth of the large accounts given of fruit raising on the Pacific Coast. There were pears weighing two pounds each, and apples larger than *some* pumpkins. Several of the apples appeared to have grown out of their usual habit, by increase of size; as for instance, a Baldwin, measuring about twelve inches in circumference, had but a slight reddish marking, and was scarcely recognizable except by the shape and taste. There seemed not to have been color enough to spread over the enlarged skin! The specimens shown, were grown in Linn Co., Oregon, and Mr. W. stated that they were not considered uncommon in that region.

Fruit and Horticulture in the Mountains of California.

Mr. Geo. D. Dorrin, of Nevada Co., Cal., writes in a letter received Dec. 26: "Enclosed you will find a list of 104 subscribers for the 20th volume of the *American Agriculturist*, with Wells, Fargo & Co's. draft for $104. By the next mail I shall probably forward an additional list. These are all new names, obtained at the instigation of my wife, though I have undertaken the work from a desire on my own part to have the *Agriculturist* circulated in the mountains of California, believing that the future of this section of our State must depend more upon its Horticultural and Agricultural resources than upon its mines.

The mountains are filled with lovely spots which only need to be 'tickled with a hoe, to make them laugh a harvest.' The experience of the past few years has shown that the mountain-raised fruit, for quality, size, and flavor, exceeds that of the vallies; and I confidently look for the time when our more barren hill sides will be covered with flourishing orchards and teeming vineyards. I desire, too, to see the miners' cabins surrounded by gardens, and I have aimed to circulate the *Agriculturist* among that class of our population, that they may see that it is as easy to raise fruit bearing trees and flowering shrubs around their cabins, as 'Manzaneta Bushes,' 'Tar Weed,' and 'Poison Oak.' Thus by drawing them away from the attractions of bar rooms and saloons, they will make better citizens, become more contented with life in California, and by building up *homes* here, conduce to the prosperity and permanency of our beautiful mountain villages."

[We shall be glad to labor in the promotion of so good a work.—Eds.]

Ornamental Vines.

Highly as we value trees and shrubs and flowering plants, we would by no means underrate the vines. They give an air of grace and finish to a garden, which can be obtained in no other way. Set them in the middle of a flower-plot, to be festooned about some tasteful piece of trellis-work; set them at the entrance of the garden, to clamber over a rustic arbor; set them at your door-step, to climb up the pillars of your piazza; or by your window, to trail over and around it, flinging their perfumes into the apartment; set them by the cabin to hide the rough logs;—in fine, set them anywhere, and they will conceal deformities, highten the native charms of every spot, and more than recompense for the labor and cost of planting.

Who has not noticed how the plainest cottage takes on an aspect of refinement and grace, when its porch, and windows, and gables, are wreathed with flowering vines? The lordly mansion, otherwise too cold and stately, becomes cheerful and homelike by their presence. And then, how soon one can possess this luxury. For shade-trees to develop their mature beauty, you must wait many years; but for these, a Summer or two suffices.

There are so many desirable vines, it is hard to select from them. The *Trumpet Honeysuckles*, (*Lonicera Sempervirens*), red and yellow, every body knows that they are among the best of all vines.

The *Prairie Roses* deservedly rank high, because they grow so vigorously, making shoots twelve feet long in a season, when well established; and because the foliage is so fine, and the flowers so beautiful, and abundant. But they have one or two drawbacks. The slugs attack them annually, and must be killed as often, with whale-oil soap, or other like application; and, at the north, the tops are so liable to be winter-killed, they need to be laid on the ground and covered. Whoever will take the little trouble required to attend to these two points, will be paid for his or her pains.

The *Chinese Wistaria* (*Glycine Sinensis*), is another desirable vine. It was brought from China, and named by Nuttall, after Dr. Wistar, of Philadelphia, an enthusiastic devotee of horticulture. It needs a deep, rich soil at first planting; after it gets a fair start, it will take care of itself and will grow almost out of sight in a single year. Its flowers are pea-shaped, purplish in color, and hang in long clusters, often a foot in length. It is a popular city vine, as it harbors no insects, and loves the warm embrace of high brick walls. In this City and further south, we have seen it covering the sides of buildings and twining about windows and tin-conductors fifty feet high.

The American Ivy, or Virginia Creeper, (*Ampelopsis quinquefolia*,) is another excellent vine. Its flowers are not conspicuous, but its foliage is dark green, glossy, and unchangeable throughout the Summer, and then in Autumn it turns purple and crimson, producing those brilliant "effects" which painters love. It is particularly desirable for covering blank walls, for hiding any architectural defects, and for producing dense shade. It is hardier than the Prairie Roses or the Wistaria.

After the above, we may mention the *Dutchman's Pipe*, (*Aristolochia Sipho*,) the *Trumpet Creeper*, (*Tecoma radicans*), several of the *Clematis* family, the *Bitter-Sweet* (*Celastrus scandens*), and the *Grape Vine*.

These are perennial plants; and to them might be added several biennials and annuals, such as the Fumitory (*Corydalis*), Cypress Vine, Morning glory, Scarlet Bean, etc. Out of all these, it will be easy for every one to find something to answer his purpose, and something that can be easily obtained.

Expected Horticultural Novelties from Japan.

A recent number of the London Gardeners' Chronicle, contains interesting letters from Mr. J. G. Veitch, a son of the great London nurseryman, who is now in Japan, collecting new trees and plants for transportation to Europe. Although his explorations are somewhat limited by the jealous strictness of the government, he reports having already obtained several new specimens of much promise. Mention is made of the surprising skill shown by the Japanese, in the manufacture of various articles from paper, among which he names first-rate waterproof overcoats, hats, umbrellas, and cases of all kinds. The paper is said by the natives, to be made from a certain tree; but they are not disposed to impart the process of manufacture.

The inhabitants show every kindness to Mr. V. and render him great assistance in making his collection of plants. They were quite incredulous as to his plan of transporting specimens to England in glass cases, having never seen any thing of the sort. The carpenter employed to construct them, was with difficulty induced to believe Mr. V. in earnest, when the work was proposed.

The success of Mr. V. thus far, demonstrates the superiority of private enterprise over governmental plans for such undertakings; although in this respect, the British nation have been much more fortunate than the United States. Further reports of the success of this enterprise will be looked for with interest, and communicated as soon as reliable information can be had.

One thousand barrels of Cranberries, it is stated, were sent to market last Fall, from a single town in Massachusetts. They brought $8,50 per barrel. We trust that before many years hundreds of acres of now almost worthless swamp lands will be bearing generous crops to increase the supply. Now is the time to look out for a supply of roots for next Spring's use.

Fig. 1.—COFFEE TREE IN BEARING.

Notes on Coffee, and its Culture.

BY A. O. MOORE.

The two domestic beverages most extensively used throughout the civilized world, are Coffee and Tea. The French and Germans have their *Wine;* the Englishman his *Beer;* the Irish and Americans their *Whisky*, in which they drink each other's health!!!—but these are the accompaniments of the public house, the social gathering, or worse places. The only drinks worthy of being brought into the *family circle* as beverages, are the first named two, and one other more recently installed, called Chocolate.

Many well-meaning persons have classed Tea and Coffee among the injurious articles of diet, "slow poisons," "breeders of headaches," etc. Never having formed the habit of drinking either, nor any artificial beverage, I may be allowed to say, that the extremes of all arguments are apt to reach into error. The appetite, that natural guardian of the stomach, and when unabused and healthy, a reliable one, has prompted man to the use of these drinks, until they are to be found on almost every civilized table. And it is a curious fact that chemists have subsequently brought their science to bear on the subject, and find that there is a substance peculiar to Coffee, which they name Cafein; also in Tea a peculiar property they name Thein. These two substances are so nearly identical that chemical skill can discover in them no difference. Is it a mere chance that the palate has thus, in advance of science, in such different products, from different quarters of the globe, instinctively in all nations, pointed out the selfsame substance, and claimed it for the human system? Yet as our reason is higher than the appetite, every wise man will avoid excesses, will watch the effect of each article of food on his own system, and regard with a jealous eye every *habit*, lest habit swerve his judgment.

The accompanying engraving, (Fig. 1,) represents a young thrifty Coffee tree about ten feet high. The plant sometimes attains a hight of twenty feet; but in cultivation it is desirable to keep the plant so low that all the branches may be easily reached; for one of the great injuries it sustains in careless hands, is the breaking of limbs and foliage in picking the crop. Fig. 2 shows a part of a branch, reduced in size, having three clusters of the fruit. On many branches there grow fifteen or twenty such clusters, so that if every tree were filled to its utmost capacity, a very large yield would be the result. In Costa Rica, one of the States of Central America, (where I investigated the subject, recently, and made the accompanying sketches from living specimens,) the largest amount I heard of as the product of one tree, was twenty two pounds, but there are many plantations which do not average more than half or three fourths of a pound to the tree, and yet pay expenses. A yield of three or four pounds per tree is generally considered a large average.

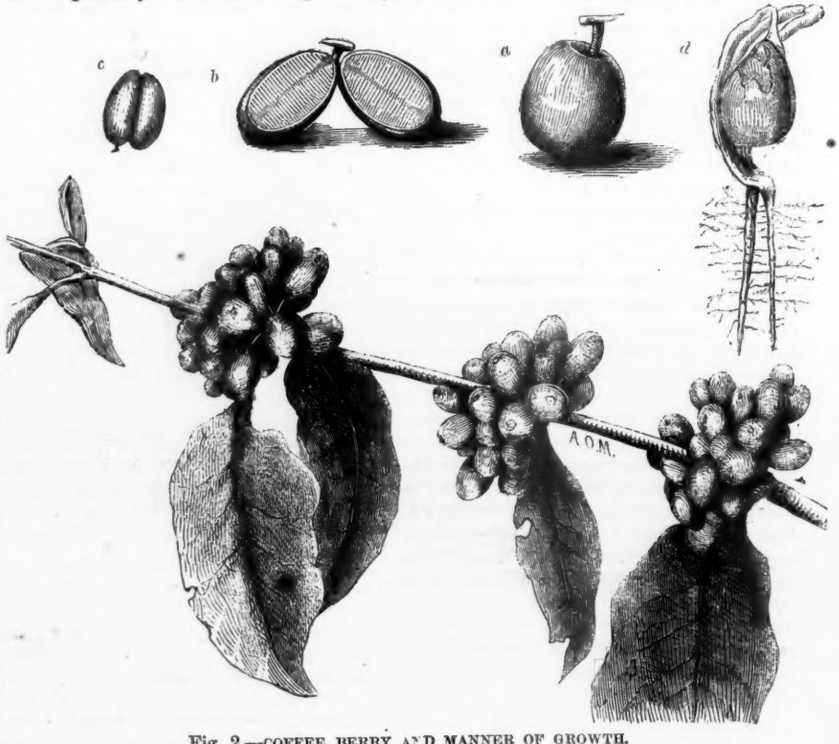


Fig. 2.—COFFEE BERRY AND MANNER OF GROWTH.

a, Fig. 2, is the coffee berry of natural size. In color, shape, and size, it is very like a blackheart cherry. This bears no resemblance to what we know as Coffee, but each such berry contains two of the grains, enveloped in a mass of pulpy matter, and several membranous coatings. *b*, Fig. 2, shows the berry divided so that each segment contains a grain. *c*, Fig. 2, gives the two grains as they lie in the berry, but with all the enveloping substance rubbed off. Each of these is a distinct seed or grain, as may be seen at *d*, Fig. 2, representing the planted berry dug up from the ground after it had sprouted, and the two roots had developed.

The Coffee tree originated in Arabia, and it is said, that from a plant brought as a curiosity to the Royal Gardens of Paris a century and a half ago, a few offshoots were sent to the West Indies. Now these islands produce the greater part of the world's supply. About fifty years ago, a "Padre," or priest, obtained and planted a few coffee seeds in his garden in Costa Rica, and for twenty years it was only considered as a curiosity, but now it is so extensively cultivated there that it is the chief article of export, and constitutes the main source of individual and national wealth. It is being rapidly introduced into the other Central American States; indeed, in San Salvador I saw the finest plantations, though everywhere its cultivation was of a negligent kind. From this charge, however, I must except the American Consul, Dr. Hine, whose plantation of 200 acres near San José de Costa Rica was well kept, and, though young, was a charming sight.

Its cultivation is a beautiful and pleasant employment. It succeeds best among the fine airy highlands, where the climate is temperate and healthy throughout the year. In itself, it is remarkably beautiful, having a luxuriance of dark, glossy, evergreen foliage. When the blossoms, in their season, white as the new fallen snow, cover the whole tree, and when the ripened crop loads the branches with dark red clusters, there is a richness and brilliancy unparalleled by any cultivated plant. It is a profitable employment too. Even as it is conducted by the Costa Ricans, the returns from four crops usually repay the whole investment with interest.

Almost universally it is raised from seed, very much as a nurseryman does his apple trees. When the plants are six inches high, they are removed from the seed bed, and set out nine inches apart, and kept clear of weeds for a year. Then they are taken up and planted in their permanent positions, varying from four to nine feet apart. When two years old, if very vigorous, they begin to bear; but a full crop is obtained the fourth year. A plantation should, if properly pruned and cultivated, continue in good bearing for 25 or 30 years, but in the majority of cases which I saw, the trees were ready for the wood-pile when ten years old.

In December and January, the crop is gathered. The wet season is then passed, and a uniform dry season may be depended on. Women and children are mostly employed in the picking, and a busy time it is. The berries are thrown into large vats of water, and well stirred with paddles, moved either by hand or machinery, until the grains are in part separated from their external coatings. The mass is then allowed to stand in the water for a day or two, until an incipient fermentation takes place, which decomposes the gluten, etc., and, it is claimed, improves the flavor of the Coffee. It is then taken from the vats and spread upon cement floors, which are a permanent and important part of the arrangements of a Coffee estate, sometimes covering an acre or more of ground. Here the Coffee is frequently stirred, and in the course of fifteen or twenty days, is sufficiently dry to be housed. In some cases, especially among foreign cultivators, I found kilns in use to facilitate the drying. The next process is to remove and separate the particles of hull, etc., which still adhere to the grain. This is accomplished by a rubbing process. Various machines are in use for this purpose, more or less efficient according to the means or intelligence of the operators; but Yankee inventions have already been introduced, which reduce the cost of cleaning from 1½ cents to ⅜ of a cent per pound. After this, the refuse and dust are removed by winnowing, and it is ready for sale. When, however, it reaches the warehouse of the merchant, it is picked over, grain by grain, and all the imperfect ones are sorted out.

THE HOUSEHOLD.

Charcoal in Starch—Chemistry.

It may interest the unscientific reader to be informed that the pure white starch she uses contains a large amount of charcoal. We had occasion to analyze it, a few years since, that is, to seperate its atoms; and what, think you, we found in 9 ounces of pure dry, white starch? Why, just 4 ounces of pure black charcoal, and 5 ounces of pure water, and nothing else! This seems wonderful, but it has been proved a hundred times. Place a little Starch in a clean iron spoon, and heat it over burning coals, as hot as you can without having it take fire. You will see it gradually change to black charcoal, and if you could catch the invisible vapor that rises, in a bottle or bell glass, you would find that only water or steam had escaped. In its ordinary state, the charcoal (or carbon) exists in such a combination with the elements of water (oxygen and hydrogen), that the compound reflects *white* light to the eye; but when you expel the elements of water, the charcoal reflects no light, or but little, and it then appears in its *black* form. This is only one of the thousand curious things that chemistry reveals, and perhaps this illustration may lead some to study this wonderful as well as useful science; for there is no science so really useful to all classes, no matter what their calling or station in life.

[In a former number we recommended our readers to procure and study "Youman's Household Science" which treats largely of the chemistry of household matters, and many have sent to us to procure the book for them. We shall gladly send it to all those who desire it. The cost is but $1.25 sent post paid. We have no interest in the copyright, and only recommend the book because we think it will do much to promote health and comfort. This is confined mainly to Household science. There are other good elementary books on chemistry—a science which we believe should be one of the first studied by every child in school, and also by every adult not yet acquainted with it.]

About the Sleep of Children.

One of the first rhyming couplets learned by most of us, was: "Early to bed, and early to rise, Makes a man healthy, wealthy and wise." This sounds plausible, and if the whole couplet were followed, it would be all well enough; but the practice is: go to bed *late* and get up *early*. An abundance of sound sleep is very important to the physical and mental health of children. While under the age of six years, 11 hours of sound sleep should be taken by them every night; from six to twelve years of age, 10 hours are needed; and from twelve to the full growth of the body, not less than 9 hours of sleep are absolutely necessary. After that period, 8 hours may answer, though 9 are better.

A sure recipe for securing restless sleep and the "kicking off" of the bed covers, is to allow children, or grown up people even, to eat hearty suppers. A light diet of bread and milk, say a cup full—not a great bowl full—is all that a child needs, and all it should have after dinner. Give them this at 5 o'clock P. M., and accustom them to go to bed invariably at 6 to 6½ o'clock, Summer and Winter, and they will sleep soundly during all the evening and through the night. After the age of three, it is better not to accustom children to sleep during the day. Then, by making it an invariable rule for them to go to bed at 6 or 6½ P. M., they will quickly drop to sleep. Were there no considerations of health, the *convenience* of having children "out of the way" during the evening, would be a sufficient inducement to this plan. We repeat that it is perfectly easy to accustom children to this,—if the rule be adhered to. We speak from successful experience, as well as from observation.

Rocking, or carrying, or singing even an infant child to sleep, induces one of the worst habits you can teach it. Put an infant in a bed or a crib, and let it lie there until it cries itself to sleep, even if it does sob for an hour or two, and in a very few days it will go into a quiet slumber quite as quickly as if shaken in the arms, or in a cradle. The truth is, few mothers or nurses have the courage or patience to endure the crying for the first few trials required, and so they go on, slaves for years. If a child wakens, do not take it up or make the slightest effort to soothe it, or you will soon inculcate a bad and needless habit. Let it lie—if it cries, no matter how hard—nerve yourself against any interference, and it will soon cease to expect aid or caresses. If a bad habit has already been formed, it will require longer and more persevering efforts to break it up, but it can always be done. Try our recommendations, mothers, and you will find them valuable, and will save yourselves a world of care, and lengthen your days and promote the health of your little ones.

How to Keep the Children Healthy.

The mortality among children in our cities, as well as in the country, is sad to contemplate. Is there any necessity for this? Are all these children sent into the world to be thus early cut down? Are not nine out of ten of these early deaths the result of ignorance? What parents ever lost a child, except by accident, without thinking: "If I had treated it differently, it would not have died"? The loss of our own three first born has led us to think much upon this topic, and three almost always healthy living ones are evidences that our studies on the subject have not been in vain. A few hints on the topic, from time to time, may not be without use to those parents who read the *Agriculturist*.

Elsewhere, we have given some hints on the sleep of children. Next to securing plenty of sound sleep, or rather before it, we place the *proper preparation of food*. The kind of food they eat is not of half so much consequence, as the manner of its preparation. Give a child a hard apple and let him swallow it in pieces from the size of a large pea upward. The result will be, that the lump will be partly worn off by the coats of the stomach, and partly dissolved by the gastric juice; but after a time, the remaining portion of the lumps will be forced down into the intestines and go through the whole length of 15 to 20 feet, producing at least griping and irritation all the way, if not diarrhea or dysentery. But first scrape or mash the apple to a fine pulp, and it may than be eaten with impunity, and with benefit, if ripe or nearly so.

Feed a child on boiled potatoes cut up, or on potatoes coarsely mashed and fried in fat, and you will be pretty sure to find more or less of lumps of potatoes remaining undigested. How can it be otherwise than that these lumps must have produced irritation in the intestines? But mash these same potatoes finely before feeding them, and then the fine material will be digested and afford nutriment instead of giving uneasiness and pain "under the apron."

The same holds true of most meats. Cut up fine—as fine as shot almost—they will be digested, and produce nourishment; while if fed in coarse pieces, they will lie in the stomach, like a meat poultice on the outside, the cause of uneasiness if not of partial inflammation. Feed raisins and nuts to children, and unless very strong and vigorous, the chances are that they will induce immediate sickness or a weakened system, liable to be affected by the first change of heat and cold. Chop these same raisins or nuts finely, reducing them almost to powder, and they may be eaten in moderate quantity with impunity. These remarks apply to all kinds of food, and, in a measure, to grown people as well as to children.

Many persons are over nice or anxious as to *what* their children eat, and often reduce them to skeletons, or unfit them for a vigorous resistance of colds and malaria diseases, by feeding them on toast, or rice, weak gruel, etc. Give them rather a fair supply of hearty food *so finely reduced that it will be quickly digested in the stomach*, and they will grow vigorous and be able to withstand the changes of climate, and the exposures to which they are ever liable. Mothers, consider these things, and see if they are not true and in accordance with reason.

Boiling—Broiling—Roasting—Frying.

When meats are *boiled* in water, a considerable portion of the nutriment is dissolved out, and owing to the fact that water can not be heated above 212° except under pressure, it is often difficult to heat the meat enough by boiling to disorganize its fibers and make it tender. If it be necessary to soak out salt, put meats to be boiled into cold water, and let them be gradually heated. But when it is desired to retain the juices, the water should be made boiling hot before the meat is put in, so as to close the pores, or coagulate the albumen upon the surface, at once. To obtain the *best broth*, let the meat be put into cold or lukewarm water, and be kept for a long time below the boiling point. A better plan still, is to cut the meat very fine, put it into a bottle, cork it tight, and then place the bottle in a kettle of water, and boil it thus for a considerable time.

When meats are *broiled* on a gridiron over hot coals, the sudden high heat applied sears the outside, which shuts in the juices, and the rapid application of heat soon cooks the meat through, if in moderately thin pieces. It is then tender, juicy, and palatable. Those who never *broil* their fresh meat, or fish, or poultry, do not know the excellences of a properly cooked dish of animal food. Of all methods of cooking fresh meats, whether fish, flesh, or fowl, broiling is the best—provided always that the cook is active and intelligent enough to handle the gridiron and meat dexterously, so as not to make charcoal of an atom, and yet quickly cook every part of the meat sufficiently to suit the taste of the consumer.

Roasting meat, in an oven, is next to broiling, and generally preferable in the hands of a careless, or slow, or inexperienced cook. But a piece of meat to be roasted well, should be put into an oven already hot, so as to sear the surface in order to retain the juices. The heat should afterwards be kept as high as possible without actual charring or burning the meat. The higher the heat, and the more rapid the cooking, the tenderer will be the meat. A long slow roasting, is next door to "tanning."

Frying in a pan or spider is the worst mode of cooking meats, except for tasteless fish, or meats which are so much like chips as to require soaking in fat to render them at all palatable. Swine-eating Gentiles do well to fry their pork, to "try out" a considerable proportion of the lard—though we have never been able to appreciate the good taste or digestibility of the fat soaked "scraps" left after frying a piece of pork in the usual process.

Cooking Potatoes.

Baking is by far the best method of cooking potatoes. Some think they dry out so much, that boiling is more economical. This is a mistake. At least four ounces out of every five of the weight of potatoes are simply water, and there is no loss of nutriment in drying out these four ounces of water. On the contrary, the dry, mealy portion left after baking, is more congenial to the stomach and more easily digested than when the moisture is kept in by boiling.

Frying potatoes in lard is the worst of all methods. Unless masticated very thoroughly before swallowing—a thing few persons do, no matter how good their teeth—it is next to impossible for the gastric juice in the stomach to attack and dissolve a lump of potato coated with fried lard, or other grease. If any one doubts this, let him eat three baked potatoes one morning; and the next morning eat the same amount of potatoes fried. In the latter case an uneasy dull feeling for two or three hours after eating, will afford abundant evidence as to which is the better mode.

If potatoes are cooked by boiling, they should always be *thoroughly mashed* before eating. If not done in the kettle, let it be done upon the plate. When mashed in the kettle, it is not economical, or best, to mix in a large quantity of butter. The use of butter, spices, etc., is to stimulate the glands of the mouth and cause them to throw out abundant saliva to moisten the food and better prepare it for the gastric juice of the stomach. This saliva is what really gives food its "good taste," and that food is most relished which "makes the mouth water" most freely. Butter, salt, or other condiments upon the *outside* of food, come most readily in contact with the glands of the mouth, and a little butter will taste better on the outside of a mouthful of food, than double the quantity mixed intimately through it. Half a pound of butter mixed into a loaf of bread will not taste as well as two ounces spread upon the slices. This rule holds good in many preparations of food. We suspect that "one cup of butter" only, in a cake, and a quarter of a cup spread on the outside in eating, will taste better than "two cups" put into the mixing pan. We are quite aware that the ladies will tell us that they need the butter *in* the cake to make it "short"—but our rule holds good in a degree, nevertheless. We like good butter on the outside of food where we can see and taste it. If the butter is poor, put it on the inside and bake out its bad taste so far as can be done.—But we have wandered from cooking potatoes, and must say more about boiling them "mealy" at another time. The above hints are small things to write about, some will say, but it is the little things that have most to do with good cooking. The larger matters every body will, of course, look after.

"Buckwheats."

Flap-Jacks, or "slap-jacks," as they are familiarly called in New-England, are in the ascendant at this season, and they are worthy of the prominent place they occupy on the winter table. If rightly made, they afford a large amount of good eating without overloading the stomach with too much solid material. Why they should be wholly discarded through the Summer season, we never could see, unless it be to save fuel—and yet it takes less fire to cook a supply of buckwheat cakes for a summer breakfast, than is required for boiling a kettle of potatoes.

The opinion formerly prevailed that buckwheat flour produced eruptions of the skin. We suspect the trouble resulted more from indigestion, arising from overloading the stomach with an immense quantity of cakes steeped in gravy and poor molasses. However that may have been, since the modern process of hulling buckwheat before grinding, has come into general use, we hear less of the complaints of the unhealthfulness of buckwheat cakes. It may be stated here also, that probably half of the material sold as buckwheat is really wheat flour. The comparative scarcity and high price of buckwheat has made it profitable to adulterate it largely with the cheaper brands of wheat flour. "Middlings" are much used for the same purpose, as most people mistake the dark color given by these, for that of buckwheat itself.

But we started to give a scientific hint to the cook. A really good light flap-jack is comparatively a rare article. After raising with yeast, the batter usually contains considerable acid, and it is customary to correct this acidity by the addition of an alkali—saleratus or soda. (Soda is better than saleratus for all kinds of cooking purposes, as less of it is required to produce the *same* results.) The alkali of the soda neutralizes the acid in the batter, and the carbonic acid gas set at liberty from the soda, assists in giving lightness to the cakes. But Bridget fails in nine times out of ten to add just soda enough; the cakes are either left a little sour, or they are overdosed, and taste of the alkali. The soda is also added in lumps, and seldom gets thoroughly diffused. It should be dissolved in a trifle of water, before putting it into the batter, and then be stirred in briskly and thoroughly.

If too little be added, the cakes are still sour, and of course the only remedy is to add more. But what if too much be added? We judge from observation, that few persons know that the over-dose of soda can be admirably corrected by stirring in a little cream of tartar. This will not only neutralize the excess of alkali, but will also yield carbonic acid gas to lighten the cakes.

The theorist will here condemn us for recommending these "drugs" for human food. Well, if you can make fresh batter from new yeast, every morning, and have the batter just right without any addition, by all means leave out the soda, and its corrective, cream of tartar. But whenever the cakes come to the table a little, or a good deal sour, we shall call out to Bridget to put in some soda, and if she get in too much, we shall call for the cream of tartar. And still further, if by any reason the batter has not risen enough to give us light cakes, we shall order in a little of both soda and cream of tartar, which will make up for the lack of fermentation. And yet again; if Bridget "forgot to set the batter last night," and we want "buckwheats" for breakfast, we shall tell her to mix up some buckwheat and put in "one teaspoonful of soda and two of cream of tartar" and thus give us some light unfermented cakes, which this process will produce. All this notwithstanding the theories of those who are down on saleratus and cream of tartar. We are but little more afraid of a slight admixture of Rochelle salt (which is produced by the union of soda and cream of tartar) than we are of an excess of common salt. This "noxious drug" does not go half so much against our stomach, as sour, or heavy, or soda browned cakes.

One hint more now. We sat at a breakfast table recently where buckwheat cakes were the only resort from poor bread and butter, sausages, and fat fried potatoes; but the cakes too were cooked swimming in grease, and of course were unfit for eating, except in small quantity. When we chance to take breakfast with you, good friend, please have the flap-jacks cooked on a griddle greased barely enough to prevent sticking. If the hints above given are followed, including this last one, and we have just a little *good* butter for the outside (see hints on cooking potatoes) we will only ask one favor more, and that is, that no count be kept of the number of times our plate is passed up for "one cake more."

P. S.—A friend at our elbow hints that a soapstone griddle is the best thing to cook flapjacks on, especially for dyspeptics, as they will not stick to this if no grease be used. Also that a piece of raw salt pork is the best "greaser," as it leaves just fat enough on an iron griddle.

BOYS & GIRLS' COLUMNS.

Uncle John's Study.....III.

BY RALEIGH TRUMAN.

Description of a new and interesting Instrument for Grown-up, as well as for little People.

[Our young friends will remember that last month there was not room in the paper for the whole of Raleigh's report. It is continued from the point where the children asked Uncle John to show them the inside of the magic box.—ED.]

Uncle John handed the box to me, saying with his peculiar smile: "Handle it carefully Raleigh, and be sure to break no wheels." I promised compliance, and received the box. Here is a picture of it. None of us could discover any wheels; no apparatus appeared in sight but two highly polished silver plates, set upright with their edges meeting in a corner or angle. The box served only to hold the plates in place.

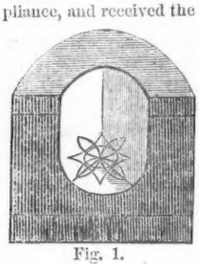


Fig. 1.

"Is that all?" exclaimed Freddy, apparently disappointed; for he had expected to see some complicated machinery, like the inside of a watch, or a music box. "Anybody could make that." "Why did you not make it then?" asked Uncle John quietly. But Freddy made no reply. "You see" continued Uncle John, "that it is easy to imitate, but not so easy to start a new idea. But don't undervalue it because it is simple in construction; simplicity is a merit in any invention."

While this conversation was going on, Cousin Grace had left the room, and presently she returned with two pieces of *looking-glass* nearly square, which she had found in her play room.

"What are those for?" asked Susie. "I'm going to make a 'magic box' for myself," replied she.

"Let us now call it by the proper name," said Uncle John. "It was invented by a German, Mr. Debus, and from him was named the *Debuscope*." "Oh I know," said Fred. "I had part of that word in my Greek lesson yesterday. *Scope* comes from *skopeo*, which means *I see*, so I suppose Debuscope signifies: *Mr. Debus' way of seeing.*"

We were all too busy watching Grace, to pay much attention to Fred's talk. She first set the pieces of glass upon their edges, and placed two ends together, like a wedge. Then she took a small thin slip of wood which she split from an old paint-box cover, and set that on edge between the front ends of the glass. After this she wound a piece of small twine tightly around the glass and wood, and tied it. This held the three pieces in their places. This picture, Fig. 2, shows pretty nearly how it looked when she had finished it. The star-shaped figure within, represents one of the designs made by placing it over some rough pencil marks on paper. "Now for an experiment with the *Grace-scope*," cried Fred. Grace laid a five cent piece on the table, placed the apparatus over it, and we all looked in eagerly. But there appeared only *six* pieces, instead of eight, as had been the case when Uncle John's Debuscope was used. "You don't give us good measure Grace," said Fred. Grace was much perplexed, and asked Uncle John the reason of the partial failure. "The pieces of glass are opened too wide," said he. "They should be set together so as to form just half a square corner, or what is called an angle of 45 degrees. Let me assist you." He then took a square piece of paper and drew a line from one corner to the other—after unwinding the string from the glass, he placed one piece upright, with its lower edge exactly even with the penciled mark, and the edge of the other piece even with the edge of the paper; the upright edges of the two pieces met and formed a corner at the corner of the paper. When they were fastened in this position with the wood and string, we tried it again, and found it worked almost as well as Uncle John's. There appeared to be open spaces or cracks between the figures which it made when placed over an object, that were not seen under his instrument. This Uncle John explained, by saying that the thickness of the glass was shown in the reflections by which the figures were made; while with the silver plates, the bright or reflecting surface was on the outside, and no thickness was shown. Except this, looking-glass answers every purpose, and as my *Agriculturist* cousins can all procure bits of looking-glass, I think they can each make one which will afford them much amusement. If they desire a better one, they can buy a couple of daguerreotype plates from some artist, and put them together; the only care needed is to place them at the proper angle, which is easily done in the way shown us by Uncle John.

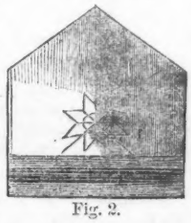


Fig. 2.

The Editor with his Young Readers.

SMART BOYS.

A bright looking chap came into our office a day or two since, with a basket of articles for sale. As soon as he entered, he commenced naming over his stock: "Want any pins, needles, thread, buttons, matches," etc., in such a rattling way, that every body stopped work to look at him. Few auctioneers could have done better. We took a fancy to him at once, and stepping from behind the desk, inquired, "Would you like to get a place to work?" "Yes, sir," he replied. "When can we see you again?" we asked. "Oh," said he, as grave as a judge, "step around to my office, corner of Brickbat and Stone streets at any time;" and turning away, he left the room. Of course, there is no such corner, and he was playing off a joke—a saucy one, but so cleverly or pertly uttered as to provoke a hearty laugh.

If that boy were properly trained, he would make an enterprising and successful man. As it is, his smartness makes him pert and impudent, and if no kind influences reform him, he will, quite likely, become noted for evil. He will be one of the foremost in all he undertakes. The incident led us to write a word to the *smart* boys who read the *Agriculturist*. We know there are many, by the pleasant letters they send. Boys, *pull hard at the traces, but not at the bit.* Make your work fly, but don't be headstrong nor saucy. Bridle your tongue, and let father and mother hold the reins—they will guide you safely, for they have been over the road and know its turns best. Hear what the Wise Man says, "Put away from thee a froward mouth, and perverse lips put far from thee."

A great friend of the children, Mrs. Gildersleeve, Buffalo, Erie Co., N. Y., contributes the following beautiful and touching incident to the Boys and Girls' Department of the *American Agriculturist.*

"BITE BIGGER, BILLY."

Walking down the street, we saw two very ragged boys with bare toes, red and shining, and tattered clothes upon which the soil of long wear lay thick and dingy. They were "few and far between" —only jacket and trowsers—and these solitary garments were very unneighborly, and objected to a union, however strongly the autumn wind hinted at the comfort of such an arrangement. One of the boys was perfectly jubilant over a half withered bunch of flowers some person had cast away. "I say Billy, war'nt somebody real good to drop these ere posies jest were I could find 'em, and they'se so pooty and nice? Look sharp Billy, and may be you'll find something bimeby—Oh jolly! Billy if here ain't most half a peach, and 'tain't much dirty neither. Cause you hain't got no peach, you may bite first. *Bite bigger*, Billy, may be we'll find another 'fore long."

That boy was not cold, nor poor, and never will be; his heart will keep him warm, and if men and women forsake him, the very angels will feed him, and fold their wings about him. "Bite bigger, Billy, may be we'll find another 'fore long."—What a hopeful little soul! If he finds his unselfishness illy repaid, he will not turn misanthrope, for God made him to be a *man*, one to bear his own burdens uncomplainingly, and help his fellows besides. Want can not crush such a spirit, nor filth stain it, for within him, and about him the spirit of the Christ-child dwelleth always.

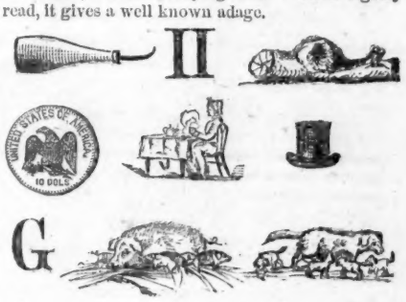
NEW PROBLEMS.

No. 3.—*Biblical Enigma.* Contributed to the *Agriculturist* by Mrs. C. C. Hemmenway, Queens Co., N. Y.

A A A A A H H H N N P P Z T E.

No name of nation nor of place,
I by these letters mean;
But if you do them rightly trace,
And put each letter in its place,
A word will then be seen.
To know what word these letters spell
Read your *Bible*, that will tell—
And when you search the Scriptures round,
It only once can there be found.

No. 4.—*Illustrated Rebus.*—The following is a capital rebus, worth studying out. When rightly read, it gives a well known adage.



ANSWERS TO PROBLEMS.

No. 1.—*Enigma* contributed by M. Deming. (See page 23.)—*Answer—A splint broom.*

No. 2.—*Illustrated Rebus.* (See page 23.)—*Answer* Ewe and eye (we) double u eye shoe aha p in ewe y ear; or, *We wish you a happy New-Year.*

Correct answers received up to January 8th:

G. C. Cook, No. 31; E. Norton, 30; Sallie A. Crater, 31; Wm. F. Boyce, 30; Thos. V. Thornton, 30 (Thanks for the *club*); Adela M. Frindley, 31 (your Enigma is very ingenious, but rather too difficult for the *Agriculturist*); Robert M. Hasbrouck, jr., 30, 31; Saidee Allaire, 31; A. N. McRoff, 30; Allen A. Gould, 31; Eugene Quackenbush, 30, 31; Julia B. Bonniwell, 31; "Kosta," Iowa, 30, 31 (no name received); Frank Bonniwell, 30; W. A. Buckhout, 30; A. H. Breckenfield, 30; R. M. & L. M. Hosick, 31; F. A. Sanders, 30, 31; Otway B. McClaire, 31; R. S. Darlington, 31; Nelson H. Moore, 31 (Rebus pretty good); Mrs. A. E. Howard, 30; George W. Howard, 31; Mrs. Avery, 31; Oliver C. Prickett, 30; Henri W. Young, 31; John E. Harditz, 31; Ebenezer R. Gray, (10 years) 31; Fuller P. Dalrymple, 30, 31; Hetty K., 31; H. D. Musser, 30, 31; Charles B. Markwick, 30; Sarah E. Middlemiss, 30, 31; J. Clayton Murray, 31; Eva E. Gibbs, 31; Frank Fancher, 31; Edmund H. Ambler, 30; Joseph Denvy, 30; Josiah Allen, 31; Mrs. A. T. Allen, 30; Wm. H. Thornton, 30; Edward J. Russel, 31; Leonard W. Ross, 31; Joseph R. Overman, 31; John Tampsett, 31; George W. Morse, 31 (your little practical joke was duly appreciated. Money and box both safe); E. J. Burbridge, 31; Chas. Frey, 31; E. H. Smith, 31; Martha J. Taft, 31; L. B. Schuyler, 31; Edwin D. Ullman, 31; J. Erskine Mills, 31; Mary Grant Lathrop, 31; Isaac E. Wilson, 30; Emory Mills, 30, 30; Joseph Clayton, 31; Allen Barnett, 31; John R. Cook, 31; Maria K. Carr, 31; Wm. Halbach, 30; Hattie Smith, 31; Isaac S. Miller, 30; Annette B. Shutts, 31; Theodore Schenk, 30; Cornelia C. Cunnington, 2; Melville Hendricks, 2; Wm. Thos. Sprigg, 31; Hamlin Rockwell, 1 (We like to receive *original* puzzles); W. P. Ewing, 31; Samuel Phillips, 31; Annie M. Brown, 1.

OUR NEW PET.

The boys and girls who read the *Agriculturist* last year will remember the description of our pet frog, given in the April number. He is still alive, and enjoying himself as well as ever; at any rate he makes no complaint, but sits contentedly upon his rock, and appears to be meditating upon the busy scenes around him. We have now another creature, whose appearance might frighten many of you, but he will be quite an entertaining companion, we think, after a little longer acquaintance. It is a large owl, of the long-eared species, measuring about fifteen inches high. His wings, when spread, extend about three feet. He was caught at Catskill, in this State, a few weeks since, and is not yet sufficiently at home to be very communicative. He has the immense eyes for which such birds are noted, and he keeps them wide open to all that is going on in the office. When a stranger approaches his cage, he gives a hiss of defiance, bristles up with his feathers, and looks quite formidable. He will, however, allow those who feed him, to smooth his head, which he seems to enjoy. One night he escaped from his cage and had a fine time flying around the office, which is a very large room. Presently he spied some stuffed specimens of birds, and attacked them with claws and bill, making the feathers fly merrily. Upon taking him again, he showed fight, and gave our foreman a severe scratch with his sharp claws, which are very strong. He feeds on mice, when he can catch them, taking one at a mouthful with perfect ease. He relishes raw mea of any kind, and will take down half a pound at a meal with great relish. We tried him with a very large live rat the other day. He made short work of it. With one claw he grasped the rat, held him firmly, and soon dispatched him with his strong bill; but left him after he was dead. We shall study his habits, and communicate any thing more that may prove interesting.

The above was written for the January *Agriculturist*, but not published then for want of room. Our poor pet has since died. He was becoming quite tame, but the warm air of the office did not agree with him, and one morning he was found on the bottom of his cage, taking his last sleep; so we are disappointed in becoming better aquainted with his habits. You will, however, find a very interesting article about an owl of nearly the same description, on page 44 of this number, which shows how good a friend he is to man.

HOW TOM WAS CAUGHT.

One of our young friends, Charles L. Siewers, sends the following anecdote of a Maryland lady and her negro servant. The lady was unable to account for the great consumption of butter in the family, and one day she followed a new purchase to the kitchen, in time to see the cook's friend, Tom, deposit one of the rolls in his hat, and put it on his head. Without seeming to notice it, she sent the cook, who was browning coffee over the fire, on an errand, and desired Tom to take her place. Not suspecting her object, he readily complied. Presently, as he stirred, a violent perspiration broke out on him. "Stir away, Tom," said the lady, "or the coffee will burn!" "Oh, missus," groaned Tom, "I'se so hot, I sweat so!" "Well, you do sweat, that's a fact, but stir away!" The perspiration now became too strong for Tom's control, and poured over his face and eyes in streams. Catching a smile on the lady's face, he dropped the spoon, exclaiming, "Oh missus, I neber do so agin," and made a dash for the door. Tom was fully cured.

JOHN BRUNT AND HIS FRIEND "SHARPY"

John Brunt was an orphan boy, who lived with a farmer and worked for his board and clothes. He had no relatives living that he knew. His father and mother had died of ship fever in the City of New-York, a few weeks after coming to this country from Holland. At that time John was but five years old. When his parents died, they were at a public house, where they had stopped for a few days only, expecting to go to Iowa and buy a farm; but death overtook them, and John was left alone among strangers. They were not his friends; for they took the trunks and money of his parents, and gave John to a man that came to the boarding house to sell vegetables. There was no one to interfere, and John was not old enough to understand anything about it. This man had no children, and took John home as company for his wife, who was quite lonely when her husband was absent at market, for they lived nearly half a mile from the nearest neighbor; and as he raised vegetables to sell in New-York, he was away from home very often. He also thought that as John grew older he would be able to help him with his work. He was a very selfish man, and his wife was much like him, and poor John found living there, very different from being with his own parents. They gave him the poorest food, clothed him in the coarsest garments, and kept him busy at whatever he was able to do. But having a good constitution, he grew rapidly even under such treatment, and before long, seemed as tough as an oak knot.

He was naturally of cheerful disposition, but like other boys he could not be happy without companions. Sometimes he was sent upon errands to the neighbors, and occasionally he met lads of his own age; but he was allowed little time to play with them. As he grew older, he made companions of the animals around him. The cows, the pigs, and the chickens all came readily at his call, and seemed to love him, for he always treated them kindly; he often talked to them, as though they could understand him, and thus he passed many pleasant hours; but still he longed for some more companionable playfellow. When he was about twelve years old, he went out late one evening to unload the barrels from the wagon which had returned from market. As he set one of them upon the ground, he heard a whining noise, and looking within, found a poor, rough, shaggy puppy, which some mischievous boy in the City had placed there, while the wagon was standing in the street. He took him out carefully, and as the little fellow crept close to him for protection, John felt almost as happy as though he had found a brother. He thought of the day when he himself was brought there in the same wagon, and with tears in his eyes he said "You shall have one friend, my little fellow, as long as John Brunt lives." He did not dare take him to the house, fearing the woman would order him to be killed, but carried him to the upper room of an out-building, made a bed for him of an old sheep-skin, and left him until after supper. He contrived to take part of his own allowance of bread and meat, to his new friend, before retiring, and then lay awake a long time contriving how he might keep him. The next morning he introduced the subject by saying how much trouble the hens made in the garden, and how nice it would be to have a dog trained to keep them away, and finally gained the consent of his mistress to keep one if he could obtain it. This was an easy matter, and very soon, under John's management, Sharpy, for that was the name he gave the dog, became a very useful little fellow. He kept the pigs and chickens from mischief, drove the cows home, and scared away all the rats from the premises. But he was especially dear to John, who spent most of his leisure in playing with him and teaching him amusing tricks. The picture represents him as engaged in this. How intently the boy and dog watch each other, as if there were a perfect understanding between them.

John was more than repaid for his sympathy for the poor animal, in the pleasure he had with him. But he was the means of still greater good to his benefactor. One day, as John was amusing himself by the roadside with Sharpy, a well dressed man riding by, stopped to see the dog's tricks, and began talking with John. Being pleased with the boy's appearance he asked him several questions, and finally learned his history.

"You are the very boy I have wanted for months" said he, when John had finished. He was a lawyer, to whom John's friends in Holland had written inquiring after the fate of his parents, and requesting that if they were dead and the boy could be found, that he should be sent back to their care, for they were quite well off in the world. The rest of the story you can easily imagine. In a few weeks John was on his way to his friends in Europe where he arrived safely, accompanied by his beloved Sharpy, who was now more dear to him than ever. So you see, that even a poor friendless brute may accidentally prove an angel in disguise.

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or interesting Extracts from their Letters, &c., &c.*

Good Letters.—We desire to return many thanks to our readers, not only for their kind words of appreciation and encouragement, but also for the numerous facts, experiments, suggestions, questions, etc., that have been recently forwarded for our columns, and especially for the "Basket." This department is to receive increased attention; it will be seen that we have made a beginning in the present paper, though a large number of letters are necessarily laid over for want of time to attend to them during this *busy* month. Let us have abundant material. *Every* subscriber could contribute at least one 'tem, and is requested to do so.

1860 and 1861 Mixed Up.—While printing the January number, we also printed an extra edition for January 1860, for bound volumes. The binders seemed to get befogged about the years, and stitched some of the inside sheets for one year with the outside sheets of the other. There were only a few of them, but any subscriber having one will please mail it to this office, with his Post Office Address, and receive a perfect copy.

Oh No!—The San Antonio Ledger, Texas, intending to do the *American Agriculturist* a good turn, after speaking of its character, etc., says: "It is unquestionably the most voluminous agricultural magazine published in this country for the money, viz., $1 per annum. Proprietor, Orange Judd, New-York."...."Prof. Mapes, who has obtained much notoriety, nay, celebrity, as an agricultural chemist, is its conductor and principal contributor."——A grand mistake, friends McLeod & Dashiell, of the Ledger! Mr. Mapes, the self-styled "Professor," is *not* "conductor" or "contributor," nor in any manner connected with *the Agriculturist*. He has a journal of his own, wherein to puff his "nitrogenized" and other "super-phosphates;" "progressed elements," and other articles of merchandize. The *Agriculturist*, on the contrary, is an independent journal, published for the people, and not to editorially advertise the wares, or chemical theories of any man, or of any establishment whatever.

The Lime Questions.—Several replies have come in since the printing of the one on page 40. Several of the most valuable will be published as we have room.

Fruit Stealers to be Felons.—The fruit growers of New-York will learn with pleasure that a bill is now pending in the Legislature, and has been favorably reported by the Committee to whom it was referred, which provides for the punishment of fruit stealers or trespassers, as *felons*. We have not yet seen a copy of the bill, but anything that will afford protection to those who are trying to raise choice fruit, will be hailed with pleasure. If the owner could be assured of being permitted to enjoy the fruit himself, there would be a large planting of trees the coming spring—especially of the choice kinds. Messrs. Legislators, please give us the law, the best you can make it, the present season, and farmers, gardeners, and horticulturists generally, will unite in a unanimous vote of thanks for this act, whatever else you may do or not do. We have opportunity to know the general feeling, and we are sure that there is a universal desire to have more stringent laws against those who would scorn to be called thieves, but who have no hesitancy in picking a lot of pears, apples, etc.—perhaps the first ever grown by some individual, of a choice variety.

N. Y. State Agricultural Society.—The annual meeting of this society will be held at the Agricultural Rooms, Albany, on Monday, February 13th.

The Grape Growers of Connecticut met recently at New Haven, and chose Daniel S. Dewey of Hartford, President, and Mason C. Weld Secretary. The convention voted its preference for the following grapes in the order named. 1st, Diana; 2nd, Delaware; 3d, Rebecca; 4th, Isabella; 5th, Hartford Prolific, 6th, Concord. They recommended the Diana for its great excellence and certainty of ripening in all fair exposures. By "resolution" the convention says: The Delaware promises well, but has not been so extensively fruited as to enable them from personal knowledge, to give positive assurance that it is worthy of the high character claimed for it by many. The Rebecca has been sufficiently tested to show, that it is a fruit of great promise and excellence; hardy, and likely to ripen, at least in good exposure. We give this as a news item; the general opinion gives a higher indorsement of the Delaware; and is less favorable to the Rebecca, which is not so hardy or vigorous a grower, as could be desired for a *fruit* of so much excellence. The order of merit, we nearly agree with.

Yale Agricultural Lectures Postponed.—We are sorry to learn, by a letter from Prof. Porter, that it has been decided to postpone the proposed course of Public Agricultural Lectures in February. Several reasons have led to this course—one of the most prominent being, we suppose, that some of those most successful as practical breeders of Stock, as well as agriculturists and horticulturists, are also public men, and they are just now too much occupied in political matters to positively promise to be present to take part in the exercises. It is intended to resume the course next Winter. The usual lectures on agricultural chemistry at Yale College, will begin February 1st. These are, in themselves, worthy of a large patronage.

Onions lost in Storing.—W. J. Spence informs us that last summer he raised a splendid crop of white, or silver skin onions at Islip, L. I., amounting to 500 bushels. Anticipating good returns, as this kind usually sells high in Spring, he prepared a good dry room for them, and spread them on the floor 4 to 5 feet deep. Following the directions of an "old onion grower" in his employ, the tops were not removed, but the whole piled together after drying in the field. As the result, the entire mass heated, and 300 bushels are spoiled for market. He is boiling, and feeding them to hogs. He has just obtained our onion pamphlet, and thinks that if he had secured it sooner, he would have saved his onions.

A Stove in the Corn Crib, would often be useful to hasten the drying, and prevent molding. A simple provision of this kind, taking care to keep the heat so low as to only dry the air and promote its circulation, will frequently save the gathered crop, and the next one too, by saving the seed corn from losing its germinating power through dampness. We practiced this 20 years ago on the paternal farm.

Good for Rats and Mice.—A correspondent of the *American Agriculturist* advises to destroy these pests thus: Wet some pumpkin seeds, sprinkle on a little arsenic or strychnine. Cats or other quadrupeds will not eat them. The most sensible part of the advice is, to place the seeds at a distance from the house, with water near. The rats and mice will find them any where, or if necessary, they may be baited out by scattering a little grain along the route. They will eat the poison, drink the water, and die before they can get back to their hiding places in the house. But look out that the children do not eat the seeds. They may be put in holes, or elsewhere, so that neither poultry nor children can get access to them.

Wild Goose Wheat.—Wm. Longfellow, Washington Co. Me. We have received samples of this under the name of "mammoth *rye*," which it resembles more than wheat. Samples were sent us from Oregon with the same account you give, viz., that it was taken from the crop of a wild goose, in that state. This account of its origin is probably fanciful.

Destroying Grub Worms.—James S. Nicholson, Weakly Co., Tenn., writes in answer to the request in the "Basket" last month, for experience in destroying these vermin, that he accidentally proved the efficacy of the late plowing there recommended. A small strip of a field was plowed early in Autumn, to prepare it for corn the following year. The remainder was delayed until after several frosts had driven insects to their winter quarters. The next Spring, the corn on the early plowed strip was much injured by the cut worm and the "bud worm," but the late plowed piece was entirely uninjured. He suggests that infested fields might be turned over during February, if the weather permit, and many insects would be killed by succeeding frosts.

Protecting Raspberries.—"Subscriber," Peterboro, C. W. The Brinkle's Orange raspberry, being hardier than the Antwerp, went through the Winter better than the latter. The Antwerp might blossom, and still not have sufficient vigor to ripen the fruit. Try again, covering with *earth* instead of evergreen brush.

Hardy Climbing Roses.—W. W. Caldwell, Orange Co., N. Y. A good assortment of these, of the colors you desire are: *Prairie Queen*, bright rose, very double; *Baltimore Belle*, white, clusters. A good, *hardy* yellow can only be had among the briar sorts, of which the *Harrisonii*, is a fine brilliant variety. For purple, take the *Boursault Purpurea*.—Anne Maria, a rosy pink, and Mrs. Hovey, a pure white, are also good sorts.

Climbing Plants over the House.—Chr. Vogt, Jefferson Co., Wis.—Cobœa Scandens (No. 165 of our free seed list), and Chinese Wistaria (to be had of nurserymen), are fine plants for training over the side of a house. Other good climbers are mentioned on page 51 of the present number.

Perfect and Imperfect Strawberries.—P. B. Wenner, Columbia Co., Pa., and others. Some of the leading hermaphrodite, or perfect strawberries, requiring no other sorts with them, are: Austin, Boston Pine, British Queen, Early Scarlet, Fillmore, Genesee, *Hooker*, Iowa, Jenny Lind, *Longworth's Prolific*, Peabody, *Triomphe de Gand*, Walker, *Wilson's Albany*, etc. A few of the pistillate sorts, requiring, say about one tenth as many of one of the above varieties to fertilize them, are: Burr's Pine, *Crimson Cone*, Cutter's Seedling, Eclipse, *Hovey*, McAvoy's Superior, Ward's Seedling, Western Queen, etc. It was formerly supposed that the pistillates produced better than the hermaphrodite, but such abundant bearers as Wilson's, Hooker, Walker, Longworth's Prolific, etc., overthrow this theory.

Bulbs in Pots.—H. H. Huntress, Hillsboro' Co., N. H. Both Summer and Winter bulbs, (Autumn and Spring flowering) can be grown in pots. The treatment is nearly the same for each. More care will be needed in Winter to protect from frost. The crowns should be two inches below the surface in Summer—one inch in Winter. If in glasses of water, let only the *roots* touch the water.

Early Peas.—These may be obtained by planting in long strips of turf and keeping them in the cellar, or any place away from frost. They may be gradually exposed, and then planted out when heavy freezing is over.

Loam with Manure.—"Novice."—You are undoubtedly right in your conclusions. Though less of the valuable ammonia escapes from *moist* manure than has been generally supposed, yet there is some loss, and the admixture of loam will absorb and retain it. The amount to be added will depend on the labor involved, richness of the material, and its consequent value to the soil where it is to be applied. An equal bulk is ordinarily enough. Muck, black earth, or sods, are superior to loam, because they are, in themselves, valuable as manures. Of these, the more the better.

An Unwise Idea.—A man in Michigan recently declined subscribing for the *Agriculturist*, "because he had a number of hired men, who would take too long a *nooning*, if they should get hold of the paper." Without doubt that man has often been annoyed with losses caused by the ignorance of employees. A few moments spent daily in reading any good agricultural journal would be paid for many times in the course of the year, by giving to the men just the information needed to enable them to work intelligently.

Pears on the Butternut.—Abraham Marshall, Northumberland Co., Pa. The pear will not succeed grafted on the Butternut; the difference in their habits of growth is too great. We have seen them growing on the apple tree, and cases of success on the Mountain Ash are reported, but they are of little reliability. No better stock is known for pears than the pear itself, or the Angers Quince for dwarfing.

Peruvian Cotton.—An invoice of Peruvian cotton has been received in this city, by way of Panama. The Journal of Commerce states that it is part of a shipment of 1500 bales on the way to Europe. The quality is very beautiful, and the samples shown would sell readily at 15 cents. The plant from which it is taken, is said to be a perennial shrub, indigenous to the soil, and needing only a little labor by the way of cultivation, to yield large results. We give this as an *on dit*, not knowing how much reliance is to be placed upon the account, nor what the enterprise may lead to.

Sheep and Dogs in Massachusetts.—The Massachusetts Board of Agriculture held its annual meeting the second week of Dec. Among several valuable reports presented, was an elaborate and interesting paper on sheep husbandry, by J. S. Grinnell, of Greenfield. The writer shows the advantage of mutton over other meats for the table, stating that the Scotch and English have demonstrated mutton to be cheaper and more nutritious than beef, and that sheep exhaust pastures less than cattle. He prefers the middling and coarse wooled varieties. The census statistics show that the number of sheep in Massachusetts has decreased more than 200,000 in 20 years. The State has now 112,000 dogs and 113,000 sheep! He refers to the fact that in Ohio the loss by dogs was over $140,000 in one year.

Starting a Nursery.—Wm. S. Ridgely, Newton Co., Mich., and others. The most feasible plan for such enterprises is to commence on a small scale and enlarge as the business grows. In this way have originated the most extensive establisments in the Eastern States.

Mulching Strawberries with Cut Straw.—The advantages of covering the ground around strawberries with straw, have been fully set forth in the *Agriculturist*. This is generally done in Spring before fruiting. A correspondent recommends putting on a coat of short cut straw in Autumn or Winter, and taking it off from the leaves and stems in Spring, when not done by rains and wind. The advantages claimed, are: that it prevents the killing of the plants by freezing and thawing, the latter part of Winter; that it keeps the weeds down in Spring; and that it prevents the soiling of the fruit by contact with the ground; and also acts as a manure by its gradual decay.

Value of the Black Currant.—The following is extracted from *Le Jardin Fruitier du Muscum*, France: The planting of the black currant bush was commenced in 1841 at Dijon, and a small portion of wine was then made. It was so well liked, that since then some two millions of currant bushes have been planted. In some places the grape has given place to the currant, the cultivation of which is rapidly increasing; but the supply of fruit is not yet equal to the demand. Each bush yields from 2 to 5 pounds, for which the manufacturer pays five to six cents per pound. An acre yields a profit of from $100 to $200. The bushes are planted in trenches 4 feet 3 inches apart, and 15 inches deep; the plants being placed some distance asunder. It is worth a trial at least by cultivators in this country.

To Make a Barren Plum Tree Bear.—Mary A. West, Harford Co., Md. Early in Spring fasten a strap or cord tightly around the body of your young tree near the first limb, and let it remain all Summer. This will check the upward flow of sap, and often promote bearing. Also cut back the ends of the leading shoots, say the middle of June, so as to induce the formation of fruit buds. The effect upon fruiting will not be seen until the following season.

For Insects and Moss-covered Trees.—When orchard trees are infested with insects or moss, the Gardeners' Chronicle recommends that the bark be well scraped with a blunt tool, after which, a coat of the following composition is useful, viz.: hot lime and soot in equal quantities mixed with water from the cow house until it attains the consistency of thick paint. It should be well rubbed into the crevices of the bark. If a little cow manure is worked into the composition, it will adhere better. [Cow manure or other fertilizers *worked into the soil* at the roots, or means adopted to make the trees grow vigorously, are the best antidote for moss.—ED. *Agriculturist*.]

Potatoes under Straw.—Theodore Schenk, Posey Co., Ind., writes to the *Agriculturist* that his neighbor last year planted ¾ acre with potatoes, by laying them upon the surface, and covering them with straw about one foot deep. He harvested 100 bushels of excellent potatoes, which was greater than any previous yield from the same land. On wet, undrained land, in localities where straw is abundant, the plan may occasionally answer, but its general utility is doubtful. Better drain the land, make manure of the straw, and mix it thoroughly with the soil.

Illinois as a Farming State.—In many respects we consider Illinois as literally the "Empire" Farming state. Almost the whole surface is tillable, and very much of it, rich prairie soil. The broad navigable Mississippi extending along its whole western border, with St. Louis and other flourishing towns upon its banks; the Ohio river on the south; Chicago the port of the Lakes on the north; Dunleith on the northwest; Cairo at the south, directly accessible to all the lower Mississippi; the numerous railroads crossing the State, and running to all the principal eastern cities, and that grand stretch of iron track, the Illinois Central Railroad, which with its two branches joins the Northeastern, Northwestern and Southern points, and unites the whole of the crossing roads—all these conspire to furnish the greatest possible market facilities. We have traveled over nearly every mile of the railroads of Illinois to see the country, and when we recall the magnificent panorama of the State as it is now spread out in the mind's eye, we feel very much like dropping our pen and going to be one of the "Illinois Farmers." Well, we have wandered from the purpose of this paragraph, which was simply to direct attention to the advertisement of its lands by the Illinois Railroad Company on another page. We almost forgot the railroad in thinking of the State. We are glad, also, to feel such an interest, as we can not help having, when a whole army of readers of the *Agriculturist* is scattered over the surface of the State. Our large mail book of nearly 500 pages tells the story of their number.

For the "Farm Garden and Household."—One German friend in Indiana, don't like the household and children's department; thinks the ladies should get their instruction while young, etc. The answer we give, is to ask him to read the first 20 pages of each number, and stop there—if he don't get a dollar's worth out of 240 pages in a year, we can't do more for him. The paper is professedly for the farm, the garden *and* the household, and must live up to its profession. That farmer is poorly off, who has not a *good* indoor establishment—wife included. Suppose, again, friend, that other men are not, like you, blessed with a help-meet who learned everything while young. Shall we not publish something to instruct *such* persons?

Wheat in New-England.—The New-England Farmer estimates the product of wheat last year, at three times that of former years, and attributes the result in a great measure to the attention awakened by discussions in Farmers' Clubs, and in the Agricultural journals and books. In some towns in Cheshire County, N. H., enough was raised for the entire home demand.

Oats on a Wheat Head!—Wilson Rogers, Erie Co., N. Y., writes that last Fall he found a wheat head on which were growing three distinct kernels of oats. He inquires if this be something new. Yes, the most surprising novelty in vegetation we have heard. If the specimen be preserved, please forward it—if not, pardon us for thinking there was some mistake, though our informant did "see it with his own eyes."

Scotch Fife Wheat in Minnesota.—The Rural Minnesotian says that Mr. T. J. Van Hook, of Winona Co., harvested and threshed the product of thirty acres of wheat of the Scotch Fife variety, sowed last Spring, which yielded 930 bushels, or 31 bu. per acre. It was raised on stubble ground, and harrowed in *without plowing*.

Abortion in Cows.—David Fairlove, Randolph Co., N. C. Injury by over exertion, or fright, as from a dog, will sometimes cause the cow to slink her calf. A substance called ergot, which grows upon grass or rye heads, will also produce it. Sometimes no reason can be given. It is remarkable that when a cow is thus affected, others of the same herd will often lose their calves, apparently from sympathy. When an animal shows symptoms of this trouble, she should at once be separated from the rest of the herd.

Keeping Cattle Clean.—B. R. Phelps, Jr., Scott Co., Iowa, writes that he keeps the bedding of cows and other cattle clean by nailing a board across the stall, a few inches above the floor, just behind the animal's heels. The excrements fall outside of the board, which also keeps the bedding from being thrown upon it by the cattle's feet. Will they not bedaub the board, and then rub their legs against it? And will they not stand or lie in a cramped position, if thus boarded in?

Burning off Calves' Horns.—A subscriber inquires how this can be done safely, so as to prevent future growth. He thinks it desirable, in order to prevent accidents. We should consider the loss of an animal's horns a sad accident, and would deprecate any such barbarity. If young cattle are properly treated from the beginning, there is but slight danger of their proving vicious. A board properly fastened across the horns, will prevent any serious damage from the head of a turbulent ox.

Novel Chicken Question.—Mr. Jones' hen sat a week on a dozen eggs, when Mr. Smith's turkey drove her off, hatched all the chickens, and took them home to Smith's. Ought Mr. Smith to pay for the chickens, and if so, how much apiece? A Connecticut judge is said to have awarded 8 cents apiece in a similar case tried before him—he deducted four cents each for the services of the turkey.

New Process for keeping Nails from Rusting.—A Belgian, named Stipheen, has made a discovery which may be of some utility; it is that the rusting of nails employed to fasten the branches of fruit trees to walls, can be prevented, by driving into the wall, in contact with the nail, a small piece of zinc. In giving an account of his discovery to the Agricultural Society of Ghent, Mr. S. exhibited nails which had been eight years in walls in contact with a piece of zinc, and which were not at all rusty.

Destroying Moles.—E. Y. B., Wallingford, Conn., writes that he destroyed the moles which infested his garden badly, by soaking corn in a solution of corrosive sublimate and placing it under the surface in their tracks. A small hole was carefully opened in the track, the corn introduced and covered with a flat stone to prevent the fowls scratching it up.—Do moles eat corn?

Earth Worms Troublesome.—Mrs. W. H. Cook, Adams Co., Pa., inquires for a remedy for earth worms which have become so abundant about house plants as to injure their roots. They can easily be excluded from pots or boxes, by sifting the earth and resetting the plants. Out of doors, they are generally considered rather beneficial than otherwise; as they loosen the soil and open it for drainage and ventilation. Have any of our readers found them destructive? If so, what efficacious means were used to expel them.

Keeping Meat under Ground.—H. Clark, of South Carolina, communicates to the Scientific American a mode of curing meat in the hottest climate, which has been practised at the South many years. A hole is dug in the earth, 4 to 6 feet deep, of any required size, the meat packed in salt at the bottom, and the whole covered with boards and earth, keeping it in this condition, until sufficiently salted. By this means, he says, no one need lose a pound of meat in the warmest climate.

To avoid a Cold.—Change the stockings two or three times a day, if they become wet from perspiration. Avoid cold draughts of air upon any part of the body; or *unequal* temperature from any cause, such as evaporation of moisture from wet clothes on a portion of the person. The clothing wet all over, is less productive of colds then when partly wet. You might jump naked into a snow bank and not take cold, but receive serious injury from immersing only a hand or a foot in the snow, while the rest of the body is kept warm. Unequal temperature upon different parts of the body, disturbs the circulation of the blood and produces a cold. The best precaution, however, is to keep the system vigorous by temperance, by a generous diet of digestible food, with plenty of sleep.

Death in the Toy Shop.—The editor of the Chemical News (Eng.), noticing the extreme brilliancy of the green paint with which some toys were decorated, purchased three or four and subjected them to analysis. He found so much arsenic in the form of arsenite of copper present, as to render such playthings dangerous in the hands of children, especially of infants, who always submit the brightest colors to the test of taste.

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A valuable Farm of 82 acres in New-Jersey, near New York, good land, well situated, and near churches, schools, &c. About 60 acres under cultivation. There is good furniture in the house—also horses, oxen, cows, &c., on the place, with wagons and farming utensils of all kinds, which will be sold with it—and at a great bargain for a small payment down. All the credit which may reasonably be required on the balance (in annual instalments,) will be given. For further particulars, address

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ALSO—A place of about 15 acres in the *City of Madison, Wisconsin*, with a good house, and excellent state of cultivation, grapery, &c., being within the city limits, and the capital of the State, and the most beautiful city in the West. It will be sold low to close an estate, and will be a fortune to the purchaser in a few years, as the city must have it for building purposes—meantime a market is *at the door* for all its produce, &c. ADDRESS AS ABOVE.

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"There is no better family machine than this made, as we have proved by nearly three years' use in our own family. We want no better."—*American Agriculturist*, December, 1860.

Office, 505 Broadway, New-York

SEND FOR A CIRCULAR.

ITALIAN BEES.

Orders will now be received for these bees to be delivered in the Spring. A circular will be sent to all applicants enclosing a stamp. In it will be found the terms and also reports from Mr. Langstroth, Dr. Kirtland, Mr. Brackett, Mr. Baldridge, and others, testifying fully, from actual observation, to the great superiority of this race over the common bee.

S. B. PARSONS,
Flushing, N. Y.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Friday, January 18, 1861.

Owing to the occurrence of Christmas, New-Years, and the National Fast, January 4th, we have had only twenty three business days, since our last monthly review, which has, of course, lessened the aggregate transactions in the Breadstuff markets. To understand the condition of the markets it is necessary to refer to the transactions of last year. The arrivals of grain and Breadstuffs at this City from the interior, during the year 1860, were enormous, especially of corn and wheat. Thus: in 1860 we received 17,072,796 bushels of wheat, against 3,818,092 bushels, in 1859. Of corn we received 11,470,638 bushels in 1860, against only 2,695,818 bushels in the previous year. Of wheat flour, 3,581,420 barrels in 1860, and 3,191-822 in 1859. But the export demand was correspondingly large; thus: during 1860 we exported to Europe, 1,926,-202 barrels of flour; 13,528,039 bushels of wheat; and 3,720,786 bushels of corn; while the total exports of the previous year amounted to only 983,516 barrels of flour; 297,587 bushels of wheat; and 186,646 bushels of corn. This large export last year left us at the close, comparatively moderate supplies, the total stock on hand Jan. 1st, 1861 being 581,711 barrels of flour; 3,535,711 bushels of wheat; and 2,712,000 bushels of corn. (The tables below show the comparative stocks of various articles for two years.) As but limited additions can be made before water navigation opens in Spring, it will readily be seen that the usual home consumption, with but a moderate export, will entirely exhaust all we have now on hand. In our last, we referred to the great deficiency of Breadstuffs in Great Britain, and to the fact that the lack could only be made up by drawing upon this country. We also stated that large shipments began in November and December, but were checked in the latter month by the fall in exchange, and other causes. This depressed prices for the time being. Numerous orders were subsequently sent forward from Europe, but they were based upon the temporary low prices here in December, and before their arrival, the influx of gold and the diminishing effect of political influences upon business, had so far restored prices, that the orders could not be filled within the limits assigned by those sending them forward. The result has been, that within the past two weeks few shipments have been made, and prices have slightly declined, but not enough to allow of the filling of foreign orders. Prices would go still lower, but holders of Breadstuffs, knowing that our stock is light and that Europe wants food and must get it here, at any reasonable price, are keeping their flour and grain on hand with much firmness. The general belief is, that so soon as there is a return from the later reports gone out to Europe of the rise here, new orders will come forward, and an active export will be renewed. So strong is this conviction, that nothing but the constant political agitation prevents large transactions among speculators. As we write, dealers are at a stand still, awaiting foreign news. Before this paper can reach a majority of our readers, it is probable that there will again be much activity in this market, and that somewhat higher rates than our present quotations, will be reached, though the present prices are partly based upon an expected demand. We have carefully examined the best sources of information, of the state of the supplies of Breadstuffs in Europe up to December 31, the date of our latest advices, and we can see no reason to doubt that there will be a continued demand for American products for a long time to come. The wet Summer and Autumn not only largely diminished the yield of the last crop, but it also greatly retarded the Fall sowing, so that the next crop must be materially affected. The result can hardly be otherwise, than that fair prices will be obtained for the large supply of grain still in our Western and Middle States. When navigation opens, this grain will come forward; the proceeds will help pay up the merchants; they will pay the merchants of this City, who will in turn increase their imports of merchandise which Europe will gladly send forward to pay for the grain received from us. The abundance of money in this City (the Banks hold nearly $30,000,000 of specie,) will aid in setting in motion the current of trade, and prevent another blocking of the wheels, such as occurred in Autumn last. So we read the future. With the abundant supplies of farm produce now in the country, and the foreign demand for them; it is next to impossible that we should have "hard times." Political excitements, it is true, may temporarily produce a panic, as happened recently, but they can have no permanent effect. The tide of commerce moves on according to fixed laws. Its surface may be ruffled and thrown into a foam even, by sudden squalls, but the current beneath will flow on, little disturbed, in its accustomed channel. The contraction begun in 1857, has largely diminished the aggregate of individual debt, and the country, taken as a whole, is now richer than ever before. There is every inducement to cultivators to take courage, and prepare to enter upon the labors of the coming season with vigor. Recovery from severe prostration like that of three years past, can not be looked for in a day, but there is a pleasure in feeling that we are convalescent... There was a material advance early in this month in the price of Cotton, amounting to 2c.@2½c. per lb., with heavy sales, at the rates 12¾c.@15c. for Middling Uplands. Within a week or ten days past speculators have been less active, and prices have fallen off ¾c.@½c. per lb., and the present rates are 12½c.@12¾c. The telegraph reports large receipts from inland, at the Gulf Ports.....In the Provision line, the only important changes have been in hog products, which have been more sought after and have advanced.....Hay and Hops have been in fair demand.....Wool has been more freely purchased but at lower rates.....The political troubles in South Carolina, having diminished the receipts of Rice, this article has been in brisk request for shipment and on speculation, at decidedly higher prices. The stock in first hands is now limited, and a further rise in prices is anticipated, although the demand is much less active than it has been.....Good, clean Clover seed has been in light supply, and has been much wanted for shipment. It is dearer than it was a month ago, as will be seen by reference to the tables below....The transactions in most other branches of trade have been restricted.....

MONEY is abundant and seeking investment at low rates of interest, for short periods, on undoubted, easily convertible securities. Little can be obtained on bonds and mortgages that can not be converted into money again. The amount of collections at the West, for Eastern creditors, have been so large that it has been difficult to procure exchange enough on Eastern cities to send forward. Eastern Bank bills have commanded a high premium in the Western States, and but little is left in circulation; while, on the contrary, Western money has been necessarily sold at a large discount here, from the fact that it has not been readily convertible into gold or exchange, when sent West. Bills on the best Banks in Ill., Wis., Iowa, and Missouri, have been held at 10@15 per cent discount. The rates are now down to 7@8 per cent. As soon as navigation opens so that this money can be forwarded for grain, the discount must be materially decreased—if the Banks strengthen themselves with sufficient securities to render their bills safe. The banking laws of the States referred to would seem, however, to need some revision. The bills on the Banks in Ohio, Kentucky, and Indiana, are worth here within one per cent of par, while Illinois money, just over the line from the last named State, is 7 to 8 per cent less valuable. Merchants and others who have remittances coming from the West, in Bank currency, are feeling this depreciation in the currency, materially.

CURRENT WHOLESALE PRICES.

	Dec. 19.	Jan. 18.
FLOUR—Superf to ExtraState	$4 65 @ 5 15	$5 20 @ 5 55
Superfine Western	4 60 @ 4 75	5 20 @ 5 35
Extra Western	5 00 @ 7 00	5 45 @ 7 25
Fancy to Extra Genesee	5 20 @ 7 00	5 60 @ 7 25
Super. to Extra Southern	4 90 @ 7 00	5 80 @ 7 50
RYE FLOUR—Fine and Super.	3 20 @ 4 00	3 50 @ 4 15
CORN MEAL	3 00 @ 3 40	3 10 @ 3 60
WHEAT—Canada White	1 25 @ 1 30	1 45 @ 1 55
Western White	1 27 @ 1 40	1 45 @ 1 57½
Southern White	1 30 @ 1 40	1 47½@ 1 62½
All kinds of Red	1 05 @ 1 20	1 18 @ 1 38
CORN—Yellow	64 @ 66	72 @ 75
White	65 @ 68	71 @ 73
Mixed	62 @ 64	69½@ 71
OATS—Western	37 @ 38	36 @ 37
State	38 @ 38¼	37 @ 38
Southern	35 @ 37	35 @ 37
RYE	68 @	73 @ 75
BARLEY	70 @ 82	65 @ 80
HAY, in bales, per 100 lbs	75 @ 1 00	85 @ 1 10
COTTON—Middlings, per lb	10½@ 10¾	12½@ 12¾
RICE, per 100 lbs	2 50 @ 3 75	3 75 @ 4 75
HOPS, crop of 1860, per lb	25 @ 32	25 @ 32
PORK—New Mess, per bbl	16 00 @	17 25 @17 50
Prime, new, per bbl	11 50 @11 75	13 12½@13 25
BEEF—Repacked mess	9 25 @10 00	8 25 @ 9 75
LARD, in bbls., per lb	9¾@ 10¼	10¼@ 10¾
BUTTER—Western, per lb	10 @ 15	10 @ 15
State, per lb	15 @ 20	14 @ 19
CHEESE	9 @ 11	8½@ 10½
EGGS—Fresh, per dozen	21 @ 25	20 @ 21
Western, per doz	18 @ 22	19½@ 20
POULTRY—Fowls, per lb	7 @ 12	8 @ 10
Chickens, per pair	9 @ 12	10 @ 12
Geese, per lb	6 @ 12	7 @ 10
Ducks, per lb	10 @ 12	10 @ 12
Turkeys, per lb	10 @ 12	10 @ 12
Partridges, ₩ pair	50 @ 62	37 @ 50
VENISON, ₩ lb		6 @ 9
FEATHERS, Live Geese, p. lb	44 @ 50	40 @ 48
SEED—Clover, per lb	7¾@ 8½	8¾@ 9
Timothy, per bushel	2 50 @ 2 75	2 62½@ 2 75
SUGAR—Brown, per lb	4½@ 7¼	5 @ 7¼
MOLASSES, New-Orleans, p. gl.	30 @ 35	35 @ 39
COFFEE, Rio, per lb	10¼@ 13	10½@ 13
TOBACCO—Kentucky, &c, p. lb	2½@ 18	8 @ 13½
Seed Leaf, per lb	5 @ 25	6 @ 25
WOOL—Domestic fleece, p. lb	32½@ 51½	28 @ 55
Domestic, pulled, per lb	21½@ 45	24 @ 42
HEMP—Undr'd Am., per tun	145 @160	None selling.
Dressed American, per tun	185 @215	215 @235
TALLOW, per lb	9 @ 9¼	9¾@ 10
OIL CAKE, per tun	28 00 @36 00	32 75 @37 50
APPLES, Prime, per bbl	1 50 @ 2 00	1 75 @ 2 50
Medium, ₩ bbl	1 25 @ 1 50	1 50 @ 1 75
Common, per bbl	50 @ 1 00	75 @ 1 25
Extra Dessert Apples	2 50 @ 3 00	2 50 @ 3 00
Dried Apples, per lb	3 @ 4	3 @ 4
Dried Peaches, per lb	5 @ 12½	8 @ 13
POTATOES—Mercers, per bbl	2 00 @ 2 50	2 50 @ 2 75
Peach Blows, ₩ bbl	1 75 @ 2 25	1 87 @ 2 00
Sweet, Virginia, per bbl	3 25 @ 3 50	2 00 @ 3 50
ONIONS, Red, per bbl	1 75 @ 2 12	1 12 @ 1 38
White, per bbl	2 50 @ 3 50	2 00 @ 2 50
TURNIPS, per bbl	75 @ 1 12	63 @ 75
CABBAGES, per 100	4 00 @ 8 00	3 00 @ 5 00
SQUASHES, per bbl	1 50 @ 2 00	1 00 @ 1 50
CELERY, ₩ dozen	75 @ 1 00	75 @

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
23 days *this* month	104,670	75,300	57,100	19,150	47,600	89,750
25 days *last* month	489,909	3,691,500	778,000	14,120	167,800	817,000
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	
23 days *this* mon.,	315,000	1,506,000	1,432,000	15,750	54,000	
25 days *last* mon.,	325,030	1,752,000	1,240,000	21,450	342,000	

The following Tables will be found interesting and valuable for present examination, or for future reference.

Stock of various articles in New-York, Jan. 1.

	1860.	1861.
Ashes, bbls	1,331	928
Cotton, bales	49 519	68,149
Flour, bbls	917,520	581,996
Grain—Wheat, bushels	1,915,338	3,535,711
Corn, bushels	79,400	2,712,000
Rye, bushels	30,100	28,400
Barley, bushels	886,795	169,574
Oats, bushels	1,570,100	494,790
Hay, bales	20,000	10,000
Hemp, tons	100	——
Hemp, bales	27,480	22,266
Hemp yarns, tons	450	190
Provisions—Pork, bbls	41,121	11,226
Beef, tcs. and bbls	80,818	53,574
Rice, tcs	4,342	4,052
Rice, bags	——	3,200
Sugars, hhds	22,203	41,402
Sugars, boxes	20,620	16,758
Sugars, bags	26,638	141,489
Tobacco, hhds	8,644	19,048
Tobacco, bales	10,163	8,880
Tobacco, manufactured, pkgs	55,202	67,367
Wool, foreign, bales	——	6,200

Receipts at New-York, in each of the last three years.

	1858.	1859.—	1860.
Ashes, bbls	18,769	24,736	23,191
Breadstuffs—			
Wheat Flour, bbls	3,806,520	3,191,822	3,581,420
Corn Meal, bbls	97,793	92,701	106,731
Wheat, bush	4,319,919	3,818,092	17,072,796
Rye, bush	327,454	334,401	206,008
Oats, bush	2,149,233	4,226,960	4,085,656
Barley, bush	735,275	1,527,400	1,251,097
Corn, bush	7,952,153	2,695,818	11,470,638
Cotton, bales	422,871	457,139	493,083
Provisions—			
Pork, pkgs	168,618	163,121	88,690
Beef, pkgs	123,028	161,707	99,820
Cut Meats, pkgs	99,909	73,359	62,292
Butter, pkgs	400,851	353,048	437,164
Cheese, pkgs	500,629	599,140	805,143
Lard, pkgs	100,225	91,100	83,342
Rice, tcs	——	76,209	68,930
Whiskey, bbls	140,380	103,463	187,779

Exports from New-York, in each of the last three year:

	1858.	1859.	1860.
Ashes—Pots, bbls	12,020	16,846	14,723
Pearl, bbls	1,764	2,625	2,650
Breadstuffs—			
Wheat Flour, bbls	1,381,039	938,516	1,926,202
Rye Flour, bbls	5,002	6,211	8,614
Corn Meal, bbls	66,469	77,810	80,574
Wheat, bush	286,461	297,587	13,538,030
Rye, bush	12,487	——	450
Oats, bushels	31,315	9,568	103,076
Barley, bushels	——	6,550	8,280
Corn, bushels	1,647,706	186,646	3,720,720
Cotton, bales	144,957	200,361	216,889
Hay, bales	32,104	25,206	20,977
Hops, bales	3,052	343	32,041
Provisions—			
Pork, bbls	78,471	130,371	91,650
Beef, bbls	76,640	122,802	40,003
Beef, tcs	——	——	55,328
Cut Meats, lbs	15,944,743	6,693,589	19,447,161
Butter, lbs	1,808,157	2,494,650	10,987,495
Cheese, lbs	6,380,100	9,287,408	23,253,712
Lard, lbs	12,684,100	11,015,412	18,866,178
Rice, tcs	41,651	41,888	25,695
Rice, bbls	——	——	28,838
Tallow, lbs	1,563,292	3,405,395	14,895,969
Tobacco, crude, pkgs	66,239	72,918	93,031
Tobacco, Mf., lbs	1,479,909	6,148,281	6,561,160

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been rather scantily supplied during the past month, only 13,904 head, or 3,475 per week, being received against 4,750 per week for the previous month. Besides this decrease in numbers, the cattle are not as heavy as those brought in a month ago, and the amount of *beef* is very much less. Pork and mutton supply the deficiency, however. Prices have advanced about ½c. per lb., ranging at the last general market, January 16th, from 9½c. to 10c. per lb., estimated dressed weight, for prime grades; 8c.@9c. for medium to good, and 6½c. @7½c. for poor and common stock, with an average of 8¼c. for all sold. The average weekly receipts for last year was 4,360, and the average price scarcely varied from last week.

VEAL CALVES.—Receipts lighter than any previous month for a year past, or only 322 per week. Prices are higher, prime calves readily bringing 6½c.@7c. per lb., live weight. There was an average of 722 calves per week brought in during the last year.

SHEEP AND LAMBS have come in moderately, the receipts for the last four weeks being 31,745, or 7,936 per week—nearly 2,000 less than last month. Prices advanced materially during the early part of the month, prime sheep bringing 6c., and extras 6½c. per lb. live weight. With over 9,700 on sale the past week, the market drooped somewhat, the prevailing rates being 5c. for medium, and 5½. for good sheep. During the past year 514,191 live sheep were received in New-York, which was an average of 9,888 head per week. The largest receipts were in November, when 17,287 head were brought in during one week.

LIVE HOGS.—Receipts since last report, 54,922, or an average of 13,730 per week. Prices ruled low, and packers have been actively engaged. The lighter arrivals of the past week (11,339) caused an advance of ¼c. They are now selling at 5½c.@5¾c. per lb., live weight, for corn-fed, and 5¾c.@6¼c. for still-fed. Present demand

good. For the year 1860, the receipts of live hogs were 319,620, or 6,147 per week.

The Weather, since our last report, has been variable, with little snow, however, and only a few touches of genuine Winter——OUR DAILY WEATHER NOTES, condensed, read thus: ——*December* 20, clear, mild—21, rain—22, cooler—23, to 27, cool, clear, and pleasant—28, 29, cool and cloudy—30, clear A. M., rain P. M., with one inch of snow at night—31, cloudy.——*January* 1, clear and fine—2, clear, rain at night, snow gone—3, cloudy and light rain—4, 5, clear and mild—6, clear, fine, rain at night—7, cloudy, light rain—8, cloudy, warm—9, cool, snow storm P. M., and at night, making fair sleighing, but two inches of snow fell—10, cloudy A. M., clear P. M.—11, clear and very cold—12, clear and cold, mercury 12°; cloudy P. M., with 2 or 3 inches more snow at night—13, coldest day thus far; mercury from 0° to 4° below, according to locality; fine sleighing—14, cold, 8°, light snow during day, ending with rain at night—15, cloudy, soft, rain at night—17, rainy day, and snow disappearing—17, clear, warm, spring-like weather—18, rain storm.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit.)—*r* indicates rain. *s*. snow.]

DECEMBER.

1.....38*s*	8.....32*s*	14 16	20.....52*r*	26..... 28
2.....30	9.....23	15.....12	21.....38	27.....28
3.....32	10.....32*s*	16.....15	22.....40	28.....27
4..... 34*s*	11.....36	17.....28	23.....24	29.....28
5.....28	12.....28	18 25	24.....23	30.....33*r*
6.....29	13.....34	19.....25*r*	25.....24	31.....34*r*
7.....33				

JANUARY.

1.....22	4.....31*s*	7.....37*r*	10.....27	13..... 0
2.....26	5.....28	8 40	11.....14*s*	14.....10*s*
3 .....24*r*	6.....28	9.....32*s*	12.....22*s*	15 33

Seeds for Free Distribution in 1861.

[☞SEE REMARKS ON PAGE 64.]

Each subscriber for the twentieth volume of the American Agriculturist (1861) *is invited to select four or five parcels of seeds from the list given opposite*—**provided the following conditions be noted and complied with.**

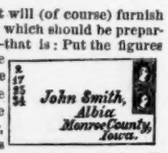
A. It is of absolute importance that the following directions be *strictly* carried out, even to the minutest particulars. We have 77 distinct varieties of seeds, to be distributed among 100,000 or more persons scattered all over the country, which at the best will involve immense labor, and occasional mistakes must unavoidably occur, unless each subscriber take special pains to facilitate the work.

B. The seeds can be called for at the office, (after Feb. 20,) or be sent by express, or in ready prepared envelopes furnished by the subscribers, as described (E.) below.

C. Subscribers at different points can estimate whether they can receive their seeds cheapest by Mail to separate individuals, or in a package to the whole Club by Express.

D. If to go by Express, no envelopes will be needed. In that case, simply send us a written list of the names, marking against each name the kinds of seed desired, *using the numbers in the Catalogue.* Keep a copy of the list sent, and give particular directions *on each list*, how the package is to be forwarded, and to whom directed.

E. If to go by *mail*, the applicant will (of course) furnish *prepaid* envelopes, of ordinary size, which should be prepared as in the engraving here given—that is: Put the figures corresponding to the Catalogue plainly on the upper left hand of the envelop, and put all the postage tamps upon the right side of the envelop,—one above the other, when two or more are needed, as shown in this pattern. Arranging the stamps thus, will prevent the seeds being crushed in the stamping process in the Post-Office. One ordinary envelop will generally hold the amount of seed-packages carried by two or three stamps. ☞*The amount of stamps can be calculated from the Catalogue. Single* 1-*cent stamps on letters are of no value, unless there be even threes of them, as letter postage is rated by the half ounce.*



F. Let all letters referring to seeds, be as brief as possible, and yet plain. All such communications are referred directly to the clerk superintending that department. It is especially desirable that whatever relates to seed should be on a slip of paper, separate from subscriptions and other matter. (We shall probably distribute over *five hundred thousand packages*, and a minute's time saved on each of these would amount to 833 working days—or nearly three years!

G. Canada subscribers, and after this date those on the Pacific Coast, will need to substitute U. S. 10-cent stamps (or money) in all cases where 3-cent stamps are named in the catalogue. When several persons send together, it will usually be cheaper to receive seeds by Express. (Postage is not necessarily prepaid *here*, on Canada letters.)

H. Always put the stamps *upon* the envelopes, and not drop them loosely into the enclosing letter.

I. It is always better to send envelopes of the ordinary size, and made after what is called the "Government pattern,"—that is, those in which the back comes fully up under the piece lapping over; these seal up more firmly. This point is not essential, however.

J. Usually, the *lighter* the envelop the better, that more seeds may go under the same stamps.

K. Send only the number of stamps required for postage on the seed.

L. Those forwarding *unpaid* envelopes, will, of course, not be disappointed if they do not return. We offer seeds *free*, but can not, in addition, afford to pay postage also.

M. All seeds sent by mail are put up at our country residence, and each package is there mailed *direct*, to avoid its being overhauled at the Distributing offices.

N. ☞We shall take time to mail all the seeds carefully and regularly. This will occupy the entire months of February, and March. Those going to distant points, and where the seasons are earliest, will be mailed first.

Seeds to California, Oregon, and Washington Territory.—For these Territories all seeds applied for before Feb. 20, went by express. All seeds sent hereafter, will go in the same manner as described above—but 10-cent stamps, instead of 3-cent stamps, will be required for all distances over 3000 miles from New-York.

LIST OF SEEDS.

[Descriptive Notes upon these seeds are given on pages 3, 4, and 5, of January number. The figures denote the order in which the seeds have been added to our Free Seed Catalogue. These numbers are upon all packages, seed drawers, etc., and are used in place of the names of the seeds.]

Field Seeds.

140—Imported Giant Wheat, requires ½ of a 3-cent stamp for postage on each package.
2—Improved King Philip Corn—Single, double, or triple packages, as desired, requiring one, two, or three stamps.
3—Stowell's Sweet Corn.....Same packages as No. 2.
141—Darling's Early Sweet Corn....Same packages as No. 2.
142—Yellow Stone Turnip.....½ of a 3-cent stamp.
143—Waite's Eclipse Turnip.....½ of a 3-cent stamp.
98—Long Red Mangel Wurzel.....One 3-cent stamp.
101—Improved Long Orange Carrot.....½ of a 3-cent stamp.

Vegetable or Garden Seeds.

8—Daniel O'Rourke Pea.....Packages same as No. 2.
9—Champion of England Pea.....do. do.
58—Napoleon Pea.....do. do.
130—Great Eastern Pea.....One 3-cent stamp.
12—Green Kohl Rabi.....One-third of a 3-cent stamp.
13—Enfield Market Cabbage.....do. do.
145—Flat Dutch (Winter) Cabbage.....do. do.
146—Early Battersea Cabbage.....do. do.
147—Neapolitan Cabbage Lettuce.....do. do.
148—Long dark Blood Beet.....do. do.
149—Extra early Bassano Beet.....do. do.
74—Solid White Celery.....do. do.
150—Early Paris Cauliflower.....do. do.
151—Yellow Danvers Onion.....do. do.
95—True Hubbard Squash.....do. do.
152—Fine large Cheese Pumpkin.....do. do.
153—Large Red Tomato.....do. do.
154—Ice-cream Water Melon.....do. do.
76—Skillman's Netted Musk Melon.....do. do.
103—Sage.....do. do.
155—Long Cayenne Pepper.....do. do.
156—Summer Savory.....do. do.
157—Long Prickly Cucumber.....do. do.
17—Red Strap-Leaf Turnip.....One half of a 3-cent stamp.
71—Long White French Turnip.....One 3-cent stamp.
107—Giant Asparagus.....do. do.

Flower, Fruit, and Ornamental Seeds.

89—Cotton Plant (2 kinds, mixed).....one 3-cent stamp.
111—Castor Oil Bean (Ornamental).....½ of a 3-cent stamp.

On an average about five of the following varieties will go under a 3-*cent stamp.*

160—Raspberry Seed.....(for Experiments.)
161—Currant Seed.....do. do.
162—Gooseberry Seed.....do. do.
163—Strawberry Seed.....do. do.

23—Mignonette, (*a.*)
25—Mixed Nasturtium, (*a.*)
27—Extra Cockscomb, (*a.*)
29—Double Balsams mix'd (*a*)
30—Tassel Flower, (*a.*)
31—Chinese Pink, (*a.*)
32—Portulaccas, mixed, (*a.*)
33—Cypress Vine, (*a.*)
43—Foxglove, (*b.*)
49—Candytuft, (*a*)
51—Phlox Drummondii, (*a.*)
86—Euphorbia, mixed, (*a.*)
87—Coreopsis, (*a.*)
122—Mixed Canterbury Bells, (*b*)
123—Gilia nivalis, (*a.*)
124—Whitlavia, (*a.*)
126—Long-tubed Centranthus, (*a.*)
164—Sweet scented Ageratum, (*a.*)
165—Cobœa Scandens, (*p.*)
166—Lobelia gracilis (*a.*)
167—Malope Grandiflora, (*a.*)
168—Swan River Daisy, (*a.*)
169—Clarkia pulchella, (*a.*)
170—Evening primrose, (*b.*)
171—Forget me not, (*p.*)
172—Lunaria biennis, (*b.*)
173—Mixed branching Larkspur, (*a.*)
174—Mixed Pansy, (*p.*)
175—Mixed Salpiglossis (*a.*)
176—Tom Thumb Nasturtium, (*a.*)
177—Ornamental Grass, (*a.*)
178—Lathyrus latifolius, (*q.*)
179—Xeranthemum annum, (*a.*)
180—Centaurea Americana (*a*)
181—Jacob's Ladder, (*p.*)
182—Sweet Alyssum, (*a.*)
183—Mixed French and German Asters, (*a.*)

a, annual—*b*, biennial—*p*, perennial.

PREMIUMS FOR 1861.

Vol. XX.

(Persons securing these premiums are requested to read the following remarks carefully, especially those referring to duplicated lists.)

After close figuring, and liberal terms from manufacturers, we find we can fully keep up the character of our paper, and even *improve* it, and yet offer the large premiums named below. These articles are offered as direct pay for time spent in canvassing for names. *This year we make no distinction between new and old subscribers*, though it is supposed that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

☞In selecting articles for premiums, we have aimed to get such as are *useful* and as have been most frequently called for by our readers. ☞WE WISH IT DISTINCTLY UNDERSTOOD *that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.*

☞We offer nothing *for competition.* Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for; and also that if a higher premium is not secured, a lower one can be taken.

☞Any extra specimen copies, or show bills, needed by canvassers, will be freely furnished. We have a very attractive show bill for 1861

☞Only one premium can be paid on the same subscriber.

☞Every person collecting names for premiums, can send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent, one of them marked at the top, "For premiums," also with the name of the sender. These duplicate lists will be kept on file by themselves, to be referred to in making up the premium when any person has completed sending in names for Volume XX.

☞The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvassers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once.

☞Clubs need not be confined to one Post Office.

☞No premium is sent till *specifically asked for*, as we have many friends who send in large lists but will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

☞It is believed that all can recommend this journal to their friends and neighbors, and urge them to take and read it. It will continue to be independent, out-spoken, and reliable, the special friend, advocate, and promoter of the farmer's interest, and will aim to facilitate and lighten the labors of every household. A larger number of instructive as well as pleasing engravings, and a greater amount of really useful information, will be given in volume twenty, than in any preceding one. *Onward, upward*, is our motto.

☞Premiums **A**, to **J**, are offered for subscribers at the lowest club price (80c.), or at the regular price ($1). Any person who has commenced sending in names at 80c. and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

Premium A.

130 Subscribers at 80 cents each, (or **90** at $1 each,) will entitle the person getting up the club to one of *Wheeler & Wilson's* best **$45 Sewing Machines,** (including **Hemmers**) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 80 cents each, (or **90** at $1 each,) will entitle the person getting up the club to a set of *Appleton's* **New American Cyclopædia,** now in course of publication, consisting of *fifteen large volumes* of 750 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, $45.

Premium C.

98 Subscribers at 80 cents each, (or **69** at $1 each,) will entitle the person getting up the club to one of *Willcox & Gibbs'* **$35 Sewing Machines,** including a set of **Hemmers.** This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is $30, but we have included in our offer $5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or **32** at $1 each,) will entitle the person getting up the club to one of the New **$10 Wringing Machines,** described on page 247 of the August *Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take $50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or **20** at $1 each,) will entitle the person getting up the club to one of *Kendall's* **Aneroid Barometers,** described on page 232 of the August *Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price $7.50.)

Premium F.

50 Subscribers at 80 cents each. (or **26** at $1 each,) will

entitle the person getting up the club to one of the best **$8 Straw and Hay Cutters.** [If preferred, the best **$8 Subsoil Plow** (two-horse) will be given.]

Premium G.

43 Subscribers at 80 cents each, (or **19** at $1 each,) will entitle the person getting up the club to the new and enlarged $6½ *Pictorial Edition of* **Webster's Unabridged Dictionary.** This standard work comprises **1748** large 3-column pages. It is not only an ornament to every house, but is of great practical use; and its full definitions place it next to the Cyclopædia as a source of general information. It weighs 8 lbs., and can go by express; or be sent by mail for 1 cent per ounce within 3000 miles, or 2 cents per ounce over 3000 miles.

Premium H.

40 Subscribers at 80 cents each, (or **21** at $1 each,) will entitle the person getting up the club to one of the best **$6½ Hand Corn Shellers**—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or **16** at $1 each,) will entitle the person getting up the club to one extra copy of Vol. XX, and also to the **4** previous unbound **Volumes** of the *American Agriculturist*, (16, 17, 18, 19,) *sent post paid.*

Premium J.

26 Subscribers at 80 cents each, (or **13** at $1 each,) will entitle the person getting up the club to a **Pocket Microscope** with the celebrated "hour-glass," or Coddington lens, in a solid silver case. Sent post-paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any *three* of the unbound volumes 16, 17, 18, and 19 sent post paid. ☞ **20** Subscribers at 80 cents each to an extra copy of Vol. XX, and *two* of those volumes. ☞ **15** Subscribers at 80 cent each, to an extra copy of Vol. XX, and *one* of the previous volumes.

Premium L.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Windsor & Newton's* **Water Color Paints**—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropiate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for the extra postage required above the 6 cents per ounce which we pay.) This and the next premium, if sent with our box of seeds going to California in February, can go without the extra postage.

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's* **Water Color Paints,** consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, $1,05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any *one* of the four previous unbound volumes (16, 17, 18, or 19,) sent post-paid.

Premium O.

237 Subscribers at 80 cents each (or **125** at $1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* **$75 Melodeons** (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing $150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

☞ The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

182 Subscribers at 80 cents each (or **105** at $1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* **$60 Melodeons** (4½ octaves.) See remarks above.

Premium Q.

130 Subscribers at 80 cents each (or **90** at $1 each), will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* **$45 Melodeons** (4 octaves.) See remarks above. **N. B.**—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 350 of Nov. No.) *to the amount of 12½ cents for each name forwarded at 80 cents,* (or 32½ cents for each name sent at $1,) and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) ☞ Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Send Duplicate Lists.

A Duplicate List of each lot of names sent for a PREMIUM must be forwarded, or we can not readily gather the names, when scattered through the entry books. If these lists are furnished, we can send off any premium the moment the required number of names are received. Always state definitely what premium is desired, and how it is to be forwarded.

Purchasing, etc., for Subscribers,

WILL BE DONE MORE FREELY HEREAFTER.

Hitherto, we have strongly and persistently objected to buying any article, or attending to any business whatever, outside of the paper—not merely on account of the trouble involved, but also to avoid even the appearance of being interested in the *sale* of any thing. The *Agriculturist* is, and *must* continue to be *independent* of any and every outside business.

But notwithstanding the oft-repeated desire, that no business orders be sent to this office, scarcely a day passes without many requests from distant subscribers who desire us "just for once," to get implements, plants, trees, seeds, books, magazines, etc., etc., for them, giving as a reason that they can not obtain the articles elsewhere, and do not know any one here to apply to with confidence. We have therefore concluded to make a virtue of necessity, and having increased our office force, we shall hereafter be able to be more accommodating.

Any subscriber, therefore, who may desire to procure any article not to be found near home, and not knowing where to get it of a reliable dealer, may send to us and we will aid him so far as is in our power.

As this matter is undertaken merely as an accommodation to our readers, to promote their convenience, and to save them from loss by falling into the hands of unreliable persons, or by purchasing worthless articles, we trust all will see the necessity of remembering that "time is money," especially in a city like this, where competent, reliable assistants are expensive.

Let all requests be as simple and definite as possible. If an article is wanted, describe it particularly, and *in all cases state exactly how it is to be forwarded.*—Send as nearly as possible the exact amount to be paid for it. If not certain on this point, send enough to cover all expense, and any surplus will be returned with the bill. When a reply is needed, a postage stamp should be enclosed.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

TERMS—(invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.

Fifty cents per line of *space* for each insertion.
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BEARDSLEY'S HAY ELEVATOR,
OR HORSE-POWER FORK.

See February Agriculturist, page 41. These valuable implements, fully rigged, with three pulleys and rope, for $16. Also State and County rights for sale by
LEVI A. BEARDSLEY, Patentee,
South Edmeston, Otsego Co., N. Y.

EVERGREENS.—JOHN W. ADAMS, Portland, Maine, continues to furnish ARBOR VITÆ and other EVERGREEN Trees at low prices, properly taken up and packed. Catalogues ready.

ICE TOOLS—ICE PLOWS, SAWS, HOOKS, TONGS, &c. For sale by R. L. ALLEN,
189 & 191 Water-st., New-York.

The Universal Clothes Wringer,
AND THE METROPOLITAN AND UNIVERSAL WRINGERS COMBINED,

Made to fit and clasp firmly all sorts of tubs or washing machines, and is warranted to work perfectly.
Prices $6 and $8, according to size. Also,
The Metropolitan Washing Machine, the best in the world
Send for Circular. For sale wholesale and retail, by the
METROPOLITAN WASHING MACHINE CO.,
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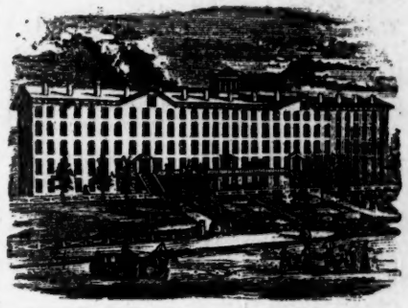
And by CHARLES V. MAPES, 128 Nassau-st.,
R. L. ALLEN, 191 Water-st.,
GRIFFING, BROTHER & CO., 60 Courtland-st.,
J. JONES & CO., 31 Fulton-st.,
BRADLEY BROTHERS, 280 Washington-st., and
TREDWELL & PELL, 45 Fulton-st., New-York.



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Rev. JOSEPH E. KING, Principal.

FARM PRODUCE
SOLD ON COMMISSION,

Such as Flour, Butter, Cheese, Lard, Provisions of all kinds, Grain, Eggs, Poultry, Game, &c., &c.
ISAAC EMENS, 226 FRONT-ST., NEW-YORK,
SUCCESSOR TO THE FIRM OF HAIGHT & EMENS.
Refers to the Editor American Agriculturist,
" E. R. Cooper, Cashier, Market Bank, New-York.

BUIST'S GARDEN MANUAL AND ALMANAC FOR 1861.

BUIST'S ALMANAC AND GARDEN MANUAL.
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CONTAINS USEFUL HORTICULTURAL INFORMATION.
THE CULTIVATION OF VEGETABLES, FRUITS, AND FLOWERS.
LISTS OF THE MOST DESIRABLE VARIETIES.
MAILED ON THE RECEIPT OF A LETTER STAMP.
R. BUIST & SON,
SEED GROWERS AND NURSERYMEN,
PHILADELPHIA

To Onion Growers.

A neat pamphlet of 42 pages, containing the condensed but plain directions of *Seventeen practical Onion Growers*, residing in different parts of the country; and embracing full directions for every item of labor from selecting seed and preparing ground, to harvesting and marketing crop. Nowhere else can so full, complete, and useful information on this subject be found. Sent post-paid on receipt of 21 cents (or seven 3-cent stamps). Address
PUBLISHER OF AMERICAN AGRICULTURIST.

Bee Keeping Explained.

The best PRACTICAL work yet published. Sent for $1.
Bees for sale by the swarm, with Italian Queens. Glass Honey Boxes, &c., &c. Circulars with particulars sent to all applicants. Address, M. Quinby, St. Johnsville, N. Y.

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PROPRIETORS OF THE SCIENTIFIC AMERICAN, AND AGENTS FOR PROCURING AMERICAN AND FOREIGN
PATENTS.

They refer to FIFTEEN THOUSAND Inventors, who have had business done by them. Pamphlet of advice, 16 pages, sent free. Patent Laws and Regulations, 100 pages, 25 cents, by mail.
OFFICE, 37 Park Row, New-York, and Washington.

SEEDLING POTATOES.—Raise your own. Seed 30 cts. per package, post paid, P. SUTTON,
Ransom, Luzerne Co., Pa.

FOR SALE. LARGE OR SMALL QUANTITY.
Victoria Rhubarb, $3 per 100; $25 per 1000.
Allen's Hardy Raspberry, $1 per 100; $8 per 1000.
Silver Maple Seedlings, 50c. per 100; $4 per 1000.
12 Acres Lawton or New-Rochelle Blackberry.
2 Acres Dorchester Blackberry.
20,000 Peach trees, choice varieties; Strawberries, Cranberries, and a good supply of other NURSERY STOCK, the best quality. SEND FOR A CATALOGUE, GRATIS.
WILLIAM PARRY, Cinnaminson, N. J.

Strawberries! Strawberries!
"By their fruits ye shall know them."

What Strawberry shall I plant? Why! the Wilson's Albany.—Why? Because it is the most productive, the largest, and finest berry out. In fact it is the "fashionable" berry. Originated at the Albany Nursery, where plants can be procured by addressing JOHN WILSON, Albany, N. Y.
Price per 100 plants.....$1
do. 1000 do.....$8
Liberal discount to the trade.

FLOWER SEEDS. FLOWER SEEDS.

After cultivating over one thousand varieties of Flower Seeds, I have selected about one hundred kinds of the most hardy, showy, and attractive, of which I will furnish, neatly put up, any 33 kinds on the list for $1, and send by mail with postage prepaid. Send for a Catalogue.
G. R. GARRETSON, Flushing, N. Y.

Garden Seeds. Garden Seeds.

The subscriber is extensively engaged in raising all kinds of Garden Seeds, having nearly 100 acres under cultivation for that purpose. They can be furnished in any quantity, and of the choicest quality. A new retail Catalogue at greatly reduced prices, and containing directions for cultivation, is just published, and will be sent to all applicants.
G. R. GARRETSON, Flushing, N. Y.

Seeds! Seeds! Seeds!

Garden, Vegetable, Grass and Flower Seeds

OF EVERY DESIRABLE VARIETY.

Descriptive priced Catalogues No. 1 and No. 2 for private, or family use; and No. 3 Trade list, forwarded on application.

ALFRED BRIDGEMAN,
No. 876 Broadway, New-York.

Bloomington Nursery, Illinois.

At Junction Ill. Central (Dubuque and Cairo) and St. Louis, Alton and Chicago Railroads. Established 1852. 120 acres Fruit, Ornamental, and Nursery Stock, a very general and reliable assortment, cheap for Cash. Particular attention invited to the splendid stock and assortment of *One Year Apple Grafts*, mostly 2 to 3 feet, 1000, $25. Also *Root Grafts*, 10,000 $50, for our ordinary and we may add, unusually successful quality [from which above named fine 1 year olds.] Root Grafts, extra strong, [to order only.] 10,000 $75. Dwarf Fruit, choice *Currants* and *Grapes*, many sorts. *Mulberry*, Downing's Everbearing, $15 per doz. *Gooseberry, Blackberry, Raspberry*, 1000 $15 to $20. *Strawberry*, including Wilson's and both McAvoy's, 1000 $5. *Asparagus*, strong, 3 year, 1000 $5. *Rhubarb*, including Linnæus and Victoria, *true*, 1000 $30 to $50. Apple Stocks, good, 2d size for budding, 10,000 $15. Quince, Pear, Plum, Mahaleb, and Rose Stocks. *Apple Seeds. Shade* and *Weeping Trees, Roses, Shrubs*, and *Bulbs*, a superb stock. *Evergreens*, Nursery grown, several sorts, 1000 $10. Packing carefully done. See Catalogues. Address, Bloomington, Ill. F. K. PHŒNIX.

EVERGREEN NURSERY.

Woodlawn, New-Jersey,
DAVID J. GRISCOM, Proprietor.

☞ The attention of persons stocking or replenishing nurseries, or having extensive grounds to improve, is particularly invited.

FOR SALE. — LARGE STANDARD PEAR Trees of the choicest varieties; also, Plum, Cherry, and Apple Trees, and many kinds of Shrubbery, &c., &c.; at our Nurseries in Tioga, Tioga Co., Pennsylvania.
Tioga, Sept. 26, 1860. WICKHAM & BLOODGOOD.

To Nurserymen, etc.

The Nursery Trade List for 1860-61 of
PETER LAWSON & SON,
Edinburgh and London, is now ready, and may be had on application to
CRAIG & NICOL,
No. 6 Bowling Green, New-York.

CHOICE BLACKBERRY PLANTS.—I have for sale plants of the following choice varieties of Blackberry, "Orange's Crystal" (white), "Albion" (pink), "Dr. Warder" (flesh color), and Black Prolific. I have selected them from several hundred varieties, for their superior size, quality, and productiveness. Price of plants $5 per dozen. Address JOHN B. ORANGE, Albion, Ill.

Fruit Seeds. Fruit Seeds.

Apple, Pear, Quince, Currant, Gooseberry, Raspberry, and Strawberry seeds.
Peach, Cherry, Nectarine, and Apricot Pits. A full assortment of Garden, Field, and Flower Seeds.
Price list sent on application.
R. L. ALLEN, 189 & 191 Water-st., New-York.

Seeds.

HONEY LOCUST for Hedges, $15 per bushel.
FRUIT and TREE SEEDS, 100 kinds—See Catalogue.
THOS. MEEHAN, Germantown, Pa.

CARROT, BEET, AND TURNIP SEEDS, of the various kinds, of extra quality, for sale by J. E. MACOMBER, Wholesale Seed Grower, Portsmouth, R. I.

GARDEN SEEDS.—THE UTMOST CARE IS taken to have my Seeds pure, reliable, and true to their kind—most of which are grown expressly for my sales.
Orders from dealers for Seeds in papers or in bulk, will be furnished on as good terms, as by any other reliable house in the country. Wholesale price lists will be sent by mail on application. R. L. ALLEN, 189 & 191 Water-st., New-York.

Genuine Mason Cabbage,

Raised wholly from the center shoot, from plants obtained from the brother of the original introducer. A variety remarkable for its reliability for heading and the exceeding hardness of the head. Let those wholly inexperienced in raising Cabbages, and those in the extreme North and South who have thus far failed, try this; it *bursts* on heading under almost any culture, oftentimes every plant on an acre setting a marketable head. One pound of seed, with directions for cultivation, post-paid, $4.00; quarter lb., $1.00; one ounce, 35 cents. Seed *warrauted* to reach purchasers.

STONE MASON CABBAGE.

This is the standard Cabbage in Boston Market, it has all the excellent characteristics of the Mason, but exceeds it in size. *I hereby offer $5.00 for one ounce of any variety of Drumhead Cabbage that shall exceed this in tenderness, sweetness, and reliability for heading.* Circulars containing facts of yield, profit, &c., &c., gratis. One pound of seed with full directions for cultivation, post paid by mail $4.00; quarter lb, $1.00; one ounce, 35 cents. Seed *warranted* to reach each purchaser. JAMES J. H. GREGORY, Marblehead, Mass.

Early Nonpariel Cauliflower.

This is the only variety that can be depended upon in our climate. It heads as freely as common cabbage, and is as easily cultivated. The seed will be furnished, warranted pure, sent by mail, postage prepaid, at the rate of $1.25 per ounce. C. B. GARRETSON, Flushing, N. Y.

Marblehead Mammoth Cabbage.

The largest Cabbage in the world, *averaging 30 lbs. per acre!* Sometimes measuring nearly six feet around the solid head, and weighing over 60 lbs. a plant.
Packages of seed, sufficient for 200 to 300 plants, with full directions for cultivation, 25 cents each; five packages $1.00. Circulars containing reliable *facts* of yield and profits, &c., &c., gratis. Seed *warranted* to reach each purchaser.
JAMES J. H. GREGORY, Marblehead, Mass.

Cranberry Culture.

The Subscriber is prepared to furnish plants the coming Fall, for high or low lands, in large or small quantities. Also will send Circulars in relation to the Cranberry, to all sending a post stamp to prepay postage. Address
SULLIVAN BATES, Bellingham, Norfolk Co., Mass.

Pear Seed. Pear Seed.

Fresh and of superior quality. Price $1.50 per pound, and at reduced rates to Nurserymen and others, ordering in large quantities.

Also,

APPLE SEED. APPLE SEED.
Price 25 cts. per quart; $5 per bushel.

Also,

MAHALEB CHERRY PITS.
Price 75 cts. per quart; $15 per bushel.

BLACK MAZZARD CHERRY PITS.
Price 25 cts per quart; $5 per bushel.

Also,

PLUM PITS. PLUM PITS.
40 cts. per quart; $6 per bushel.

STRAWBERRY SEED. STRAWBERRY SEED.
12 SUPERB VARIETIES, from $1.50 to $2.50 per ounce.

EUROPEAN LARCH SEED.
20 cts. per oz.; $1.50 per pound.

BLACK AUSTRIAN PINE.
25 cts. per oz.; $3.00 per pound.

SCOTCH FIR SEEDS.
15 cts. per oz.; $1.50 per pound.

HONEY LOCUST SEED.
60 cts. per pound.

BALD CYPRESS SEED.
30 cts. per quart; $7 per bushel.

VIRGILIA LUTEA, or YELLOW WOOD SEED.
$1 per oz.; $12 per pound.

NORWAY SPRUCE SEED.
15 cts. per oz.; 75 cts per pound.

EUROPEAN SILVER FIR.
15 cts. per oz.; $1.00 per pound.

With one of the most extensive collections of GARDEN, FIELD, and FLOWER SEEDS in the world.
Send for our Catalogues.
J. M. THORBURN & CO.,
15 John-st., New-York.

RARE AND BEAUTIFUL FLOWERS. SPLENDID NOVELTIES.

The following seeds have been received by the subscriber from the most reliable sources, and can be confidently recommended. Many others, never yet offered in this country, are daily expected. Notice of their arrival will be given.

NEW DOUBLE ZINNIA. The most interesting novelty sent out for many years, now offered for the first time in this country. Packets containing 20 seeds, ... 50
DIANTHUS HEDDEWIGII, New Japan Pink, per packet... 25
DIANTHUS LACINIATUS, another variety of the above. ... 25
TRUFFAUT'S FRENCH ASTERS, the finest in cultivation.. 25
DOUBLE HOLLYHOCKS, saved from a collection of 75 named varieties..... 25
ENGLISH PANSY, extra, from the finest collection in Europe, saved from Prize Flowers only. 50
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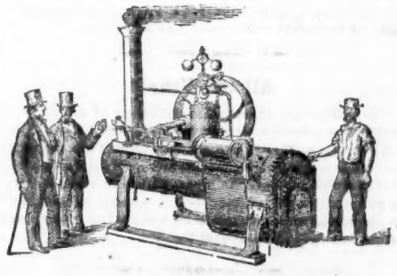

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Publisher's Notices.

This Number Worth a Dollar.

We have just finished reading the proof sheets, and candidly think this single paper worth more than a Dollar to every one having a rod of ground to cultivate. We do not believe any person who carefully reads even the first eight pages will take a dollar for the hints, suggestions, and information received. Were not all the articles good, we would specify "Stick a pin here; Two hours with Mr. Rarey; Mr. Jones' Experience; Liming Land; Medical Advertisements; the Household Department;" etc. Any person who can read this number without gaining valuable information is more fortunate than the writer, for he has learned much from the thoughts and investigations of several associates and contributors who have helped supply the material for these pages.—But this is a *business* paragraph, and to make it practical, we ask those who do value this number *to mention the fact to a neighbor or two.*

We have stereotype plates to print plenty of copies of this and the preceding number for all new subscribers—*and—ten more first rate numbers are yet to come.*

All the Year!!

The general premiums, offered on page 60, are good for all the year; that is: all subscribers obtained by any person for volume 20 complete, may be counted in a premium list—no matter when the names are received. Of course it is preferable to have the lists made up as soon as may be. In the leisure of the Winter season, people have more time to read, and we desire to have the *Agriculturist read* as well as *subscribed* for.

Yes!

Many write thus: "I am raising a club for a Melodeon, or Sewing Machine, or other premium, and shall get it. Can I not send on the pay for the number of subscribers required, and receive my premium, and afterward forward the names as I get them?" We answer, yes, if the subscriptions all begin with the volume; though we would prefer to have the names as early as possible that the subscribers may begin to receive their papers. In some cases, persons have subscribed at once for the whole number of copies, having those not subscribed for by others, forwarded to themselves, to be given out as subscribers were obtained. We prefer all names to come to our mail books, that the papers may be separately directed to them, as is always done, even where they go in club packages to the same office.

There is Time Enough Yet.

Premium Clubs can still be filled up, and new ones be commenced and completed. Our premium articles are *valuable, and worth working for.* Hundreds of them have already gone out, but the supply of most of them is inexhaustible.

A Sewing Machine at an Agricultural Society.

Reference has already been made to the fact, that the Ozaukee County Agricultural Society, Wis., subscribed for 95 copies of the *Agriculturist* at $1 each, to give out as premiums instead of money, and the Society itself took the premium Sewing Machine, to be exhibited at the fair, and then sold at auction for the benefit of the funds of the Society. The Secretary, Mr. J. Tomlinson, thus reports: "The Sewing Machine affair, with the subscription for 95 copies, was a complete success. The Machine arrived in perfect order—was sold at auction for $40,50 which is so much extra money in the treasury; and I have yet to hear of any one of those receiving the *Agriculturist* as a premium, who would exchange it for a money premium. So well is the paper liked that at one of our towns a large list, now nearly full, is being got up to obtain a premium Melodeon for a Church."

Send for the Seeds Now.

We desire all present subscribers wishing seeds, and not having yet sent in their envelopes, to forward them now. Our list is as full as we can make it at present. Several desirable varieties, which we sent to Europe for, can not be obtained in quantity this year, and so we can not add them to the present list, as we have been waiting and hoping to do. The bad season for growing seeds in Europe has caused us great trouble and delay. The casks of seeds that should have been here early in December and would have been in ordinary years, are not all here yet (Jan. 18.), but they are daily looked for, and will be here before the close of January. The moment they arrive they will be put up as rapidly as possible. We are now putting up those grown in this country, and without doubt the assortment will be completed, so that the distribution can begin early in February. It will take a few weeks to get up with the applications, as we prefer to do the work with our old experienced force, instead of putting on many new hands. The *mail parcels* are put up and distributed in the country. An assortment for callers and for express parcels will be ready at our City Office about the close of February. Ample notice of the time of commencing the distribution, and any other items will be announced in our next number.

Each one Select his Own Seeds.

Hundreds send in stamped envelopes, and ask us to select seeds for them. We can not. Our list embraces many varieties, and it is impossible to even guess which will be most desirable for individual subscribers—whether field, garden, or flower seeds—or what variety. We should be quite likely, in many cases, to send those least desired, and besides, where so many are to be supplied, we can not devote the time or thought needed to select for a particular locality. The seed distribution, at best, involves immense labor, care, and expense.——Some have asked for seeds without making any selection, or providing stamps, or directing *how* or where to send them. They must not complain at receiving no seeds.

Dear Subscription Money.

In a few cases we have received by Express, from the distant West, $8 for 10 subscribers, upon which the Express company has charged us 75 cts. to $1, and the brokers 10 to 15 per cent on the money inclosed, leaving only about $6 for 10 subscribers, including expense for seeds and the premiums, when claimed. This has doubtless occurred through oversight on the part of the sender. If small sums are ever sent by express, at our expense, please send gold, or money nearly current here, and stipulate for its carriage at a low price—marking the agreed price plainly on the parcel, where we can see it on delivery. There is seldom a necessity for resorting to this mode of carriage. Small sums come safely by mail, and larger sums are best sent in drafts on New-York Banks. At least half of the cost of drafts may be deducted.

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